XM-475GSX

SERVICE MANUAL

US Model
Canadian Model

Ver 1.2 2002. 07

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US MODEL)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
75 watts per channel minimum continuous average power into 4 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.04% total harmonic distortion per Car Audio Ad Hoc Committee standards.

Other Specifications

Circuit system	OTL (output transformerless) circuit Pulse power supply
Inputs	RCA pin jacks High level input connector
Outputs	Speaker terminals
Speaker impedance	2 – 8 Ω (stereo) 4 – 8 Ω (when used as a bridging amplifier)
Maximum outputs	Four speakers: 170 W × 4 (at 4 Ω) Three speakers: 170 W × 2 + 400 W × 1 (at 4 Ω) Two speakers: 400 W × 2 (at 4 Ω)
Rated outputs (supply voltage at 14.4 V)	
	Four speakers: 75 W × 4 (20 Hz – 20 kHz, 0.04% THD, at 4 Ω) 100 W × 4 (20 Hz – 20 kHz, 0.1% THD, at 2 Ω) Two speakers: 200 W × 2 (20 Hz – 20 kHz, 0.1% THD, at 4 Ω)
Frequency response	5 Hz – 50 kHz ($^{+0.5}_{-3}$ dB)
Harmonic distortion	0.005% or less (at 1 kHz)
Input level adjustment range	
	0.2 – 6.0 V (RCA pin jacks) 0.4 – 12 V (High level input)
High-pass filter	50 – 300 Hz, –12 dB/oct
Low-pass filter	50 – 300 Hz, –12 dB/oct
Low boost	0 – 10 dB (40 Hz)
Power requirements	12 V DC car battery (negative ground)
Power supply voltage	10.5 – 16 V
Current drain	at rated output : 40 A (4 Ω) Remote input : 1.5 mA
Dimensions	Approx. 358 × 50 × 264 mm (w/h/d) (14 1/8 × 2 × 10 1/2 in.) not incl. projecting parts and controls
Mass	Approx. 3.5 kg (7 lb. 11 oz.) not incl. accessories
Supplied accessories	Mounting screws (4)

Design and specifications are subject to change without notice.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

STEREO POWER AMPLIFIER

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Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location and Function of Controls

1 POWER indicator
Lights up in green during operation.

2 PROTECTOR indicator
- OVER CURRENT:
  Lights up in red when input signal overload.
- OFFSET:
  Lights up in red when the voltage going out to the Speaker terminal or the Pin Jack is too high.
- THERMAL:
  Lights up in red when the temperature rises to an unsafe level.

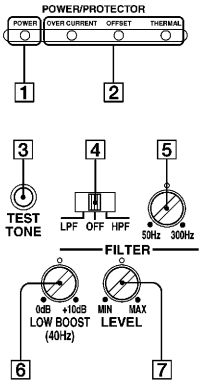
3 TEST-TONE button
When the button is pressed, if the test tone can be heard from the connected speakers, operation is normal.

4 FILTER selector switch
When the switch is in the LPF position, the filter is set to low-pass. When in the HPF position, the filter is set to high-pass.

5 Cut-off frequency adjustment control
Sets the cut-off frequency (50–300 Hz) for the low-pass or high-pass filters.

6 LOW BOOST level control
Turn this control to boost the frequencies around 40 Hz to a maximum of 10 dB.

7 LEVEL adjustment control
The input level can be adjusted with this control. Turn it toward MAX when the output level of the car audio seems low.



Emplacement et fonction des commandes

1 Indicateur POWER
S'allume en vert en cours fonctionnement.

2 Indicateur PROTECTOR
- OVER CURRENT:
  S'allume en rouge lorsque le signal d'entrée est surchargé.
- OFFSET:
  S'allume en rouge lorsque la tension de sortie vers le terminal du haut-parleur ou la prise à broches est trop élevée.
- THERMAL:
  S'allume en rouge lorsque la température atteint un niveau trop dangereux.

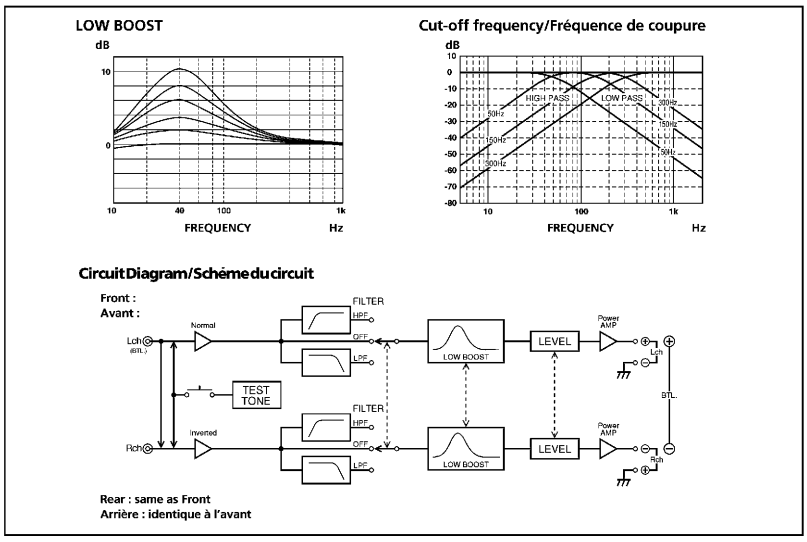
3 Touche TEST-TONE
Si, lorsque vous appuyez sur cette touche, vous entendez la tonalité de test depuis les enceintes raccordées, cela signifie que le fonctionnement est normal.

4 Commutateur de sélection FILTER
Lorsque le commutateur de sélection est en position LPF, le filtre est réglé sur passe-bas. Lorsqu'il est en position HPF, le filtre est réglé sur passe-haut.

5 Commandes de réglage de la fréquence de coupure
Règle la fréquence de coupure (50–300 Hz) des filtres passe-bas ou passe-haut.

6 Commande de niveau LOW BOOST
Tournez cette commande pour amplifier les fréquences autour de 40 Hz jusqu'à un maximum de 10 dB.

7 Commande de réglage LEVEL
Le niveau d'entrée peut se régler avec cette commande. Tournez vers MAX lorsque le niveau de sortie de l'xinstallation radio paraît faible. Mettez-le sur MAX lorsque le niveau de sortie de l'installation audio paraît faible.



Connections

Precautions

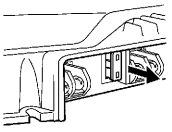
- This unit is designed for negative ground 12 V DC operation only.
- Use speakers with suitable impedance.
  — 2 to 8 Ω (stereo).
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers.
- Avoid installing the unit in areas subject to:
  — high temperatures such as from direct sunlight or hot air from the heater
  — rain or moisture
  — dust or dirt.
- If your car is parked in direct sunlight and there is a considerable rise in temperature inside the car, allow the unit to cool down before use.
- When installing the unit horizontally, be sure not to cover the fins with the floor carpet etc.
- If this unit is placed too close to the car radio or antenna, interference may occur. In this case, relocate the amplifier away from the car radio or antenna.
- If no power is being supplied to the master unit, check the connections.
- This power amplifier employs a protection circuit* to protect the transistors and speakers if the amplifier malfunctions. Do not attempt to test the protection circuits by covering the heat sink or connecting improper loads.
- Do not use the unit on a weak battery as its optimum performance depends on a good power supply.
- For safety reasons, keep your car audio volume moderate so that you can still hear sounds outside your car.

Fuse Replacement

If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

Warning

When replacing the fuse, be sure to use one matching the amperage stated above the fuse holder. Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.



***Protection circuit**
This amplifier is provided with a protection circuit that operates in the following cases:
— when the unit is overheated
— when a DC current is generated
— when the speaker terminals are short circuited.
The PROTECTOR indicator lights up in red and the unit will shut down.
If this happens, turn off the connected equipment, take out the cassette tape or disc, and determine the cause of the malfunction. If the amplifier has overheated, wait until the unit cools down before use.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Connexions

Précautions

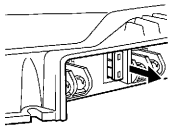
- Cet appareil est conçu pour fonctionner uniquement sur courant continu de 12 volts avec masse négative.
- Utilisez des haut-parleurs d'une impédance appropriée.
  — 2 à 8 Ω (stéréo).
- Ne raccordez pas de haut-parleurs actifs (avec amplificateur intégré) aux bornes de haut-parleurs de cet appareil; ils pourraient être endommagés.
- N'installez pas l'appareil à un endroit exposé à:
  — de hautes températures comme sous le rayonnement direct du soleil ou près d'un conduit de chauffage
  — la pluie ou à l'humidité
  — de la poussière ou à des saletés.
- Si votre voiture était garée en plein soleil et que la température a considérablement augmenté à l'intérieur, laissez refroidir l'appareil avant de l'utiliser.
- Si vous installez l'appareil à l'horizontale, ne recouvrez pas les ailettes de ventilation par le tapis de sol ou autre chose.
- Si cet appareil est placé trop près de l'autoradio et de l'antenne, il se peut que des interférences se produisent. Dans ce cas, éloignez l'amplificateur de l'autoradio ou de l'antenne.
- Si l'appareil principal n'est pas alimenté, vérifiez les connexions.
- Cet amplificateur est équipé d'un circuit* destiné à protéger les transistors et les haut-parleurs en cas de défaillance. N'essayez pas de tester l'efficacité de ce circuit en recouvrant les dissipateurs thermiques ou en effectuant des connexions inadéquates.
- N'utilisez pas l'appareil sur une batterie faible, car sa performance maximale dépend d'une bonne alimentation en électricité.
- Pour des raisons de sécurité, écoutez l'autoradio à un volume modéré afin d'entendre les bruits extérieurs.

Remplacement du fusible

Si le fusible saute, vérifiez les connexions du fil d'alimentation et remplacez le fusible. S'il saute de nouveau, un mauvais circuit interne peut en être la cause. Dans ce cas, consultez votre concessionnaire Sony.

Avertissement

En cas de remplacement du fusible, veillez à utiliser un fusible dont l'intensité correspond à celle inscrite sur le porte-fusible. N'utilisez jamais de fusible dont l'intensité dépasse celle du fusible fourni avec l'appareil, car vous risqueriez d'endommager l'appareil.



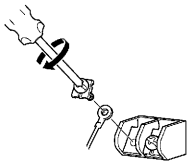
***Circuit de protection**
Cet amplificateur est équipé d'un circuit de protection qui entre en service dans les cas suivants:
— Surchauffe de l'appareil
— Production d'un courant continu
— Court-circuit aux bornes des haut-parleurs.
L'indicateur PROTECTOR s'allume en rouge et l'appareil s'arrête.
Si le cas se présente, coupez l'alimentation de l'appareil raccordé et éjectez la cassette ou le disque compact avant d'examiner la cause de la défaillance. Si l'amplificateur est trop chaud, attendez qu'il refroidisse.

Pour toute question ou problème qui ne serait pas traité dans ce manuel, consultez votre concessionnaire Sony.

Caution

- Before making any connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Be sure to use speakers with an adequate power rating. If you use small capacity speakers, they may be damaged.
- Do not connect the ⊖ terminal of the speaker system to the car chassis, and do not connect the ⊖ terminal of the right speaker with that of the left speaker.
- Install the input and output cords away from the power supply lead as running them close together can generate some interference noise.
- This unit is a high powered amplifier. Therefore, it may not perform to its full potential if used with the speaker cords supplied with the car.
- If your car is equipped with a computer system for navigation or some other purpose, do not remove the ground wire from the car battery. If you disconnect the wire, the computer memory may be erased. To avoid short circuits when making connections, disconnect the +12 V power supply lead until all the other leads have been connected.

Make the terminal connections as illustrated below.



Note
Tighten the screws firmly, but be careful not to apply too much force as doing so may damage the screws.*

* *The torque value should be less than 8.7 lbf•in. (1 N•m).*

Attention

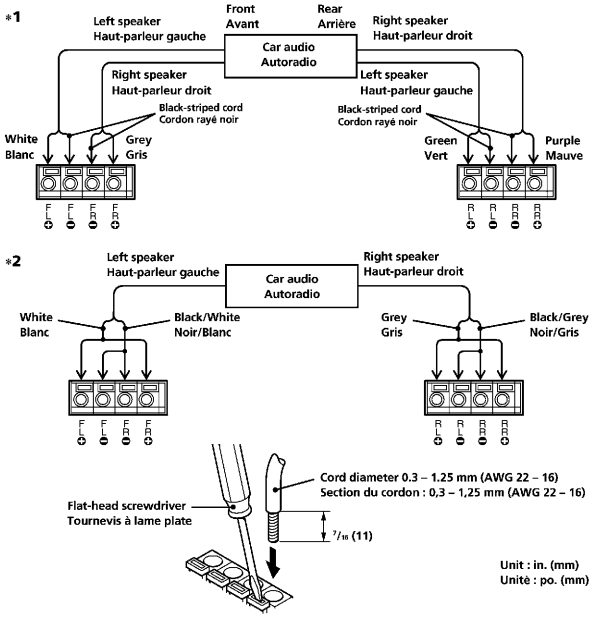
- Avant d'effectuer les connexions, débranchez le fil de masse de la borne de la batterie pour éviter un court-circuit.
- Utilisez des haut-parleurs d'une capacité adéquate. Si vous utilisez des haut-parleurs de faible capacité, ils risquent d'être endommagés.
- Ne raccordez pas la borne ⊖ des haut-parleurs à la carrosserie de la voiture ni la borne ⊖ du haut-parleur droit à celle du haut-parleur gauche.
- Eloignez les cordons d'entrée et de sortie du fil d'alimentation électrique pour éviter que des interférences ne se produisent.
- Cet appareil est un amplificateur de haute puissance et il peut ne pas atteindre sa puissance maximale si les cordons de haut-parleurs originaux de la voiture lui sont raccordés.
- Si votre voiture est équipée d'un ordinateur de bord pour la navigation ou à toute autre fin, ne débranchez pas le fil de masse de la batterie de la voiture. Si vous débranchez ce fil, toute la mémoire de l'ordinateur sera effacée. Pour éviter un court-circuit lorsque vous effectuez les branchements, branchez le fil d'alimentation de +12 volts uniquement après avoir branché tous les autres fils.

Effectuez les connexions de la manière indiquée ci-dessous.

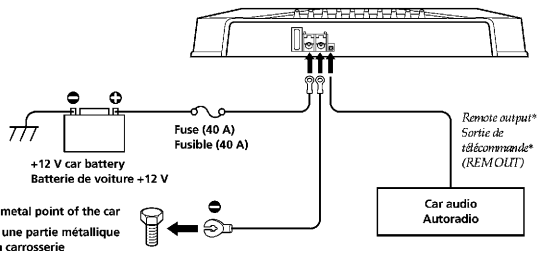
Remarque
Ne serrez pas trop fort la vis car vous pourriez l'endommager.*

* *Le couple de serrage devrait être inférieur à 1 N•m.*

Speaker cord direct in connector
Cordon de haut-parleur directement dans le connecteur



Power Connection Leads
Câbles d'alimentation



* *If you have the factory original or some other car audio without a remote out-put on the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply.*
* *Si vous disposez du modèle d'origine ou d'un autre autoradio dont l'amplificateur ne comporte pas de sortie de télécommande, raccordez la borne d'entrée de télécommande (REMOTE) à la prise d'alimentation accessoires.*

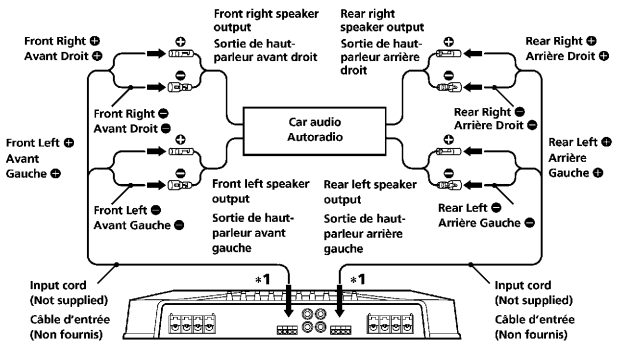
Notes on the power supply
- *Connect the +12 V power supply lead only after all the other leads have been connected.*
- ***Be sure to connect the ground lead of the unit securely to a metal point of the car. A loose connection may cause a malfunction of the amplifier.***
- *Be sure to connect the remote control lead of the car audio to the remote terminal.*
- *When using a car audio without a remote output on the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply.*
- *Use the power supply lead with a fuse attached (40 A).*
- *Place the fuse in the power supply lead as close as possible to the car battery.*
- *Make sure that the leads to be connected to the **+12 V** and **GND** terminals of this unit are larger than 10-Gauge (AWG-10) or have a sectional area of more than 7/32 in.² (5 mm²).*

Remarques sur l'alimentation électrique
- *Raccordez le câble d'alimentation +12 V uniquement après avoir réalisé toutes les autres connexions.*
- ***Raccordez correctement le fil de masse à une partie métallique de la voiture. Une connexion lâche peut provoquer un dysfonctionnement de l'amplificateur.***
- *Veillez à raccorder le fil de télécommande de l'autoradio à la borne de télécommande.*
- *Si vous utilisez un autoradio dont l'amplificateur ne comporte pas de sortie de télécommande, raccordez la borne d'entrée de la télécommande (REMOTE) à la prise d'alimentation accessoires.*
- *Utilisez un câble d'alimentation muni d'un fusible (40 A).*
- *Fixez le câble d'alimentation le plus près possible de la batterie de voiture.*
- *Vous devez raccorder des câbles de calibre supérieurs à 10 (AWG-10) ou d'une section supérieure à 7/32 po.² (5 mm²) aux bornes **+12V et GND**.*

Input Connections

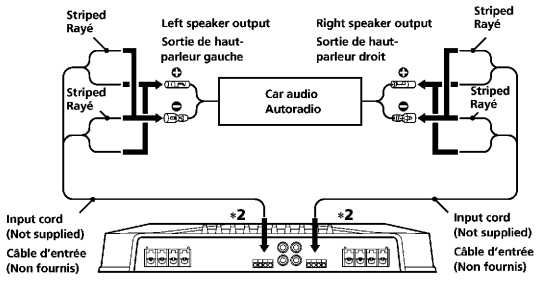
High Level Input Connection (with Speaker Connection 1, 2 or 4) A

Connexion à l'entrée de haut niveau (avec connexion de haut-parleur 1, 2 ou 4)



High Level Input Connection (with Speaker Connection 3) B

Connexion à l'entrée de haut niveau (avec connexion de haut-parleur 3)

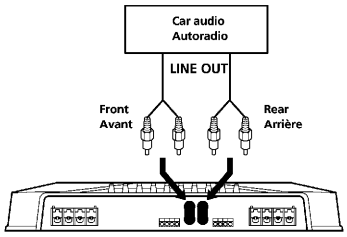


Note
Make sure that the right speaker output from the car audio is connected to the connector marked "REAR" on the unit.

Remarque
Assurez-vous que la sortie du haut-parleur droit de l'autoradio est raccordée au connecteur portant l'indication "REAR" sur l'appareil.

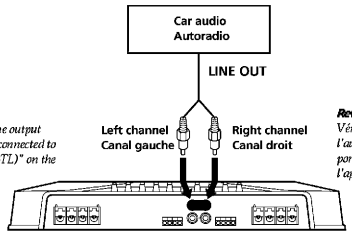
Line Input Connection (with Speaker Connection 1, 2 or 4) C

Connexion d'entrée de ligne (avec connexion de haut-parleur 1, 2 ou 4)



Line Input Connection (with Speaker Connection 3) D

Connexion d'entrée de ligne (avec connexion de haut-parleur 3)



Note
Make sure that the line output from the car audio is connected to the jack marked "L (BTL)" on the unit.

Remarque
Vérifiez que la sortie de ligne de l'autoradio est raccordée à la prise portant l'indication "L (BTL)" sur l'appareil.

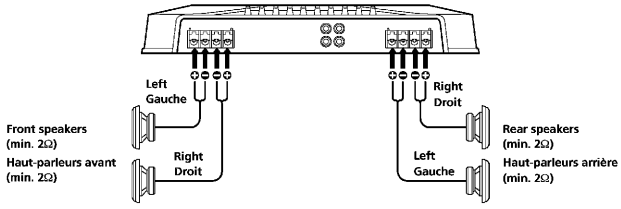
Speaker Connections

4-Speaker System (with Input Connection A or C) 1

Système à 4 haut-parleurs (avec connexion d'entrée A ou C)

For details on the settings of switches and controls, refer to "Location and Function of Controls."

Pour plus de détails sur les réglages des commutateurs et commandes, reportez-vous à "Emplacement et fonction des commandes."

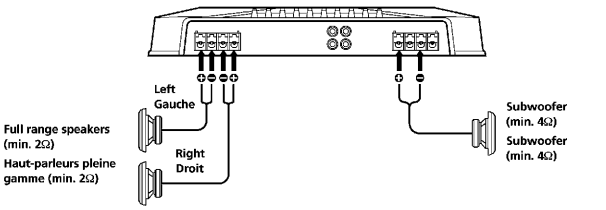


3-Speaker System (with Input Connection A or C) 2

Système à 3 haut-parleurs (avec connexion d'entrée A ou C)

For details on the settings of switches and controls, refer to "Location and Function of Controls."

Pour plus de détails sur les réglages des commutateurs et commandes, reportez-vous à "Emplacement et fonction des commandes."



Notes
- *In this system, the volume of the subwoofer will be controlled by the car audio fader control.*
- *In this system, the output signals to the subwoofer are a combination of both the REAR L and R INPUT jacks or the REAR high level input connector signals.*

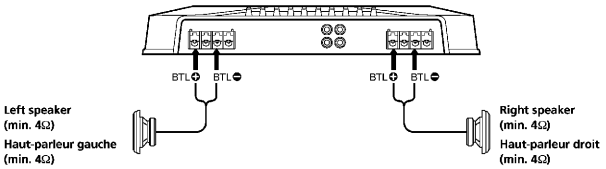
Remarques
- *Dans ce système, le volume du subwoofer est contrôlé par le fader de l'autoradio.*
- *Sur cet appareil, les signaux transmis vers le subwoofer sont constitués des signaux des prises REAR L et R INPUT.*

2-Speaker System (with Input Connection B or D) 3

Système à 2 haut-parleurs (avec connexion d'entrée B ou D)

For details on the settings of switches and controls, refer to "Location and Function of Controls."

Pour plus de détails sur les réglages des commutateurs et commandes, reportez-vous à "Emplacement et fonction des commandes."

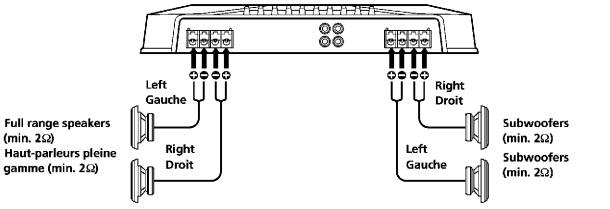


2-Way System (with Input Connection A or C) 4

Système à 2 voies (avec connexion d'entrée A ou C)

For details on the settings of switches and controls, refer to "Location and Function of Controls."

Pour plus de détails sur les réglages des commutateurs et commandes, reportez-vous à "Emplacement et fonction des commandes."



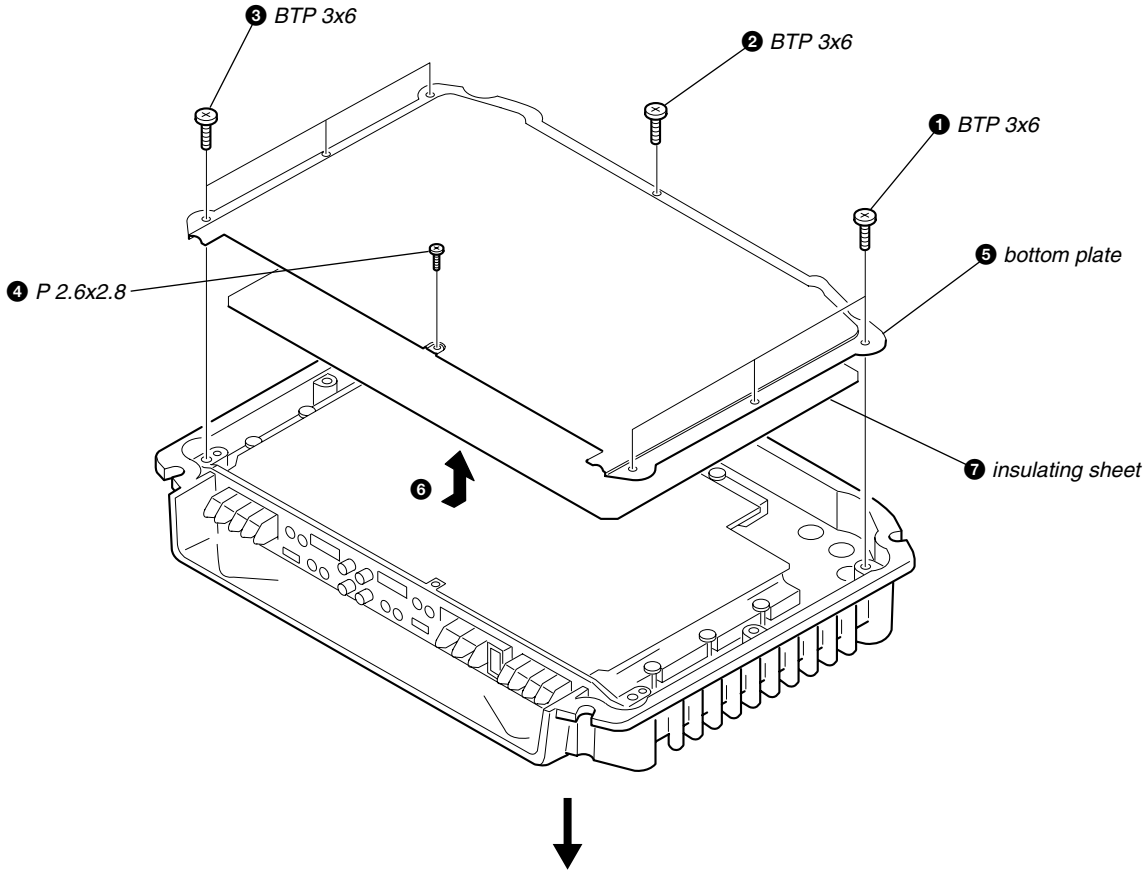
Note
In this system, the volume of the subwoofers will be controlled by the car audio fader control.

Remarque
Dans ce système, le volume des subwoofers est contrôlé par le fader de l'autoradio.

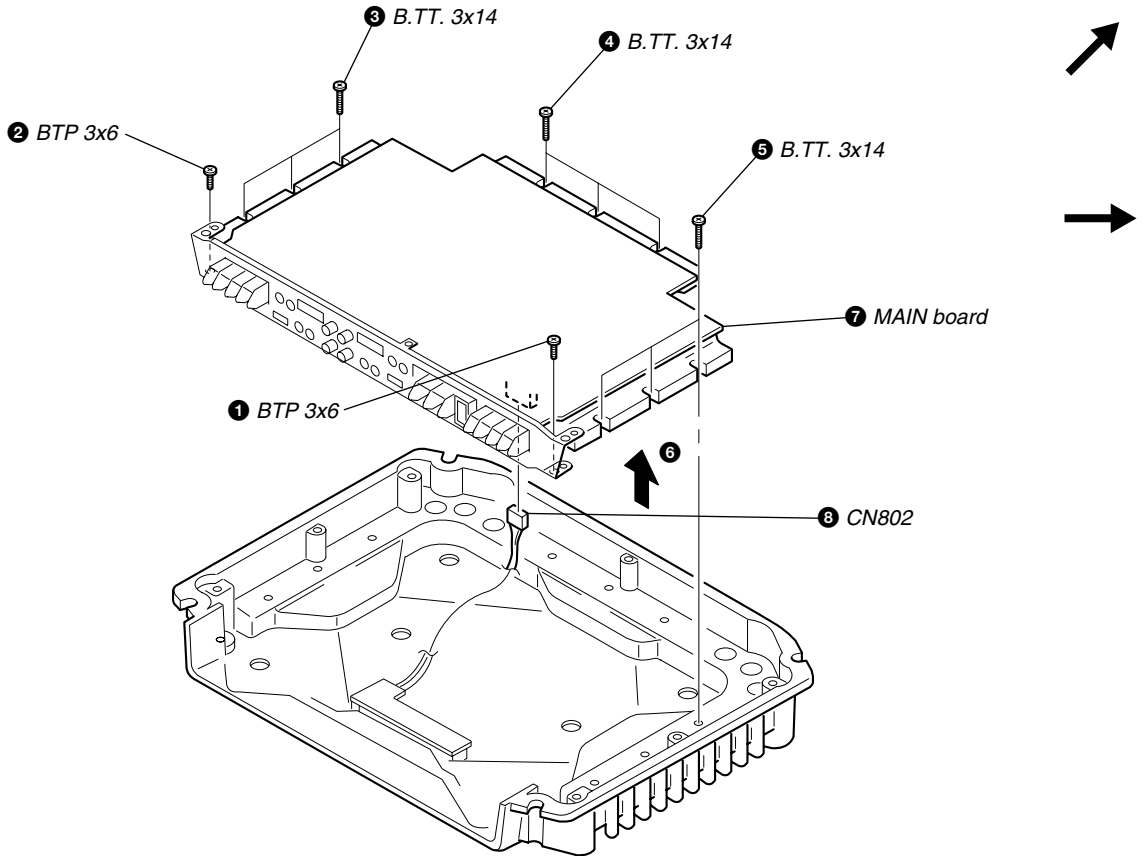
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

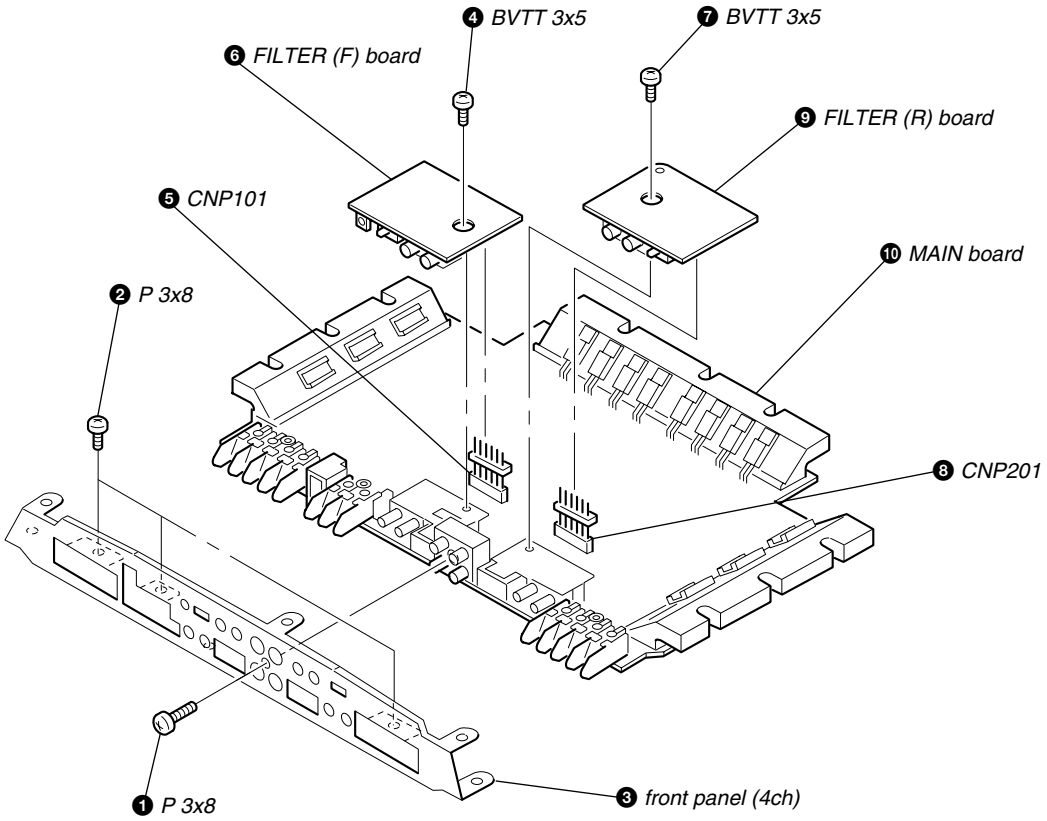
2-1. BOTTOM PLATE



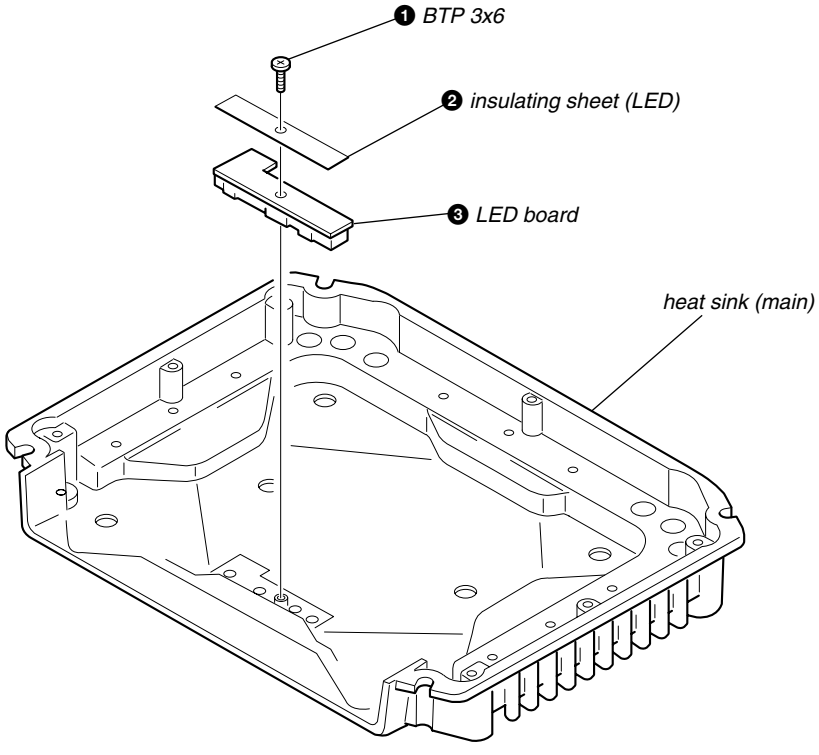
2-2. MAIN BOARD SECTION



2-3. MAIN BOARD, FILTER (F) BOARD, FILTER (R) BOARD



2-4. LED BOARD

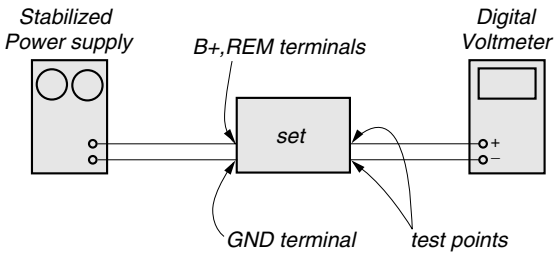


SECTION 3
ELECTRICAL ADJUSTMENT

Bias Adjustment

Note : The Bias adjustment should be performed only if any of Q109, Q110, Q209, Q210, Q309, Q310, Q409 and Q410 are replaced.

Setting :



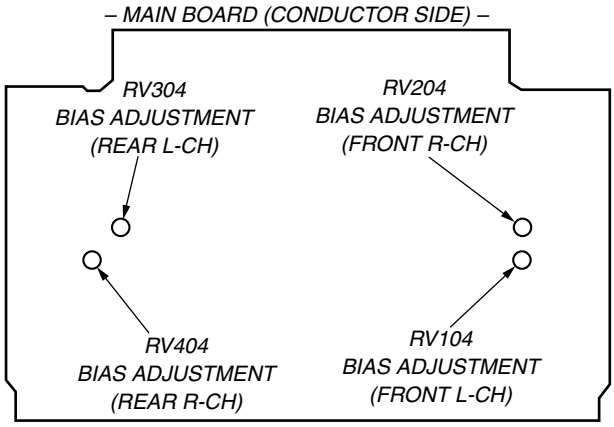
Procedure:

1. Rotate the variable resistors RV104, RV204, RV304 and RV404 fully in the clockwise direction to minimize the idling current of the stabilized power supply.
2. The input signal is to be no signal.
3. Set the power voltage to +14.4 V, and turn the remote mode ON (Connect between the REM terminal and B+ terminal).
4. Connect on digital voltmeter between each test points.
5. Adjust RV104, RV204, RV304 and RV404 so that the digital voltmeter reading is 2.5 ± 0.5 mV.

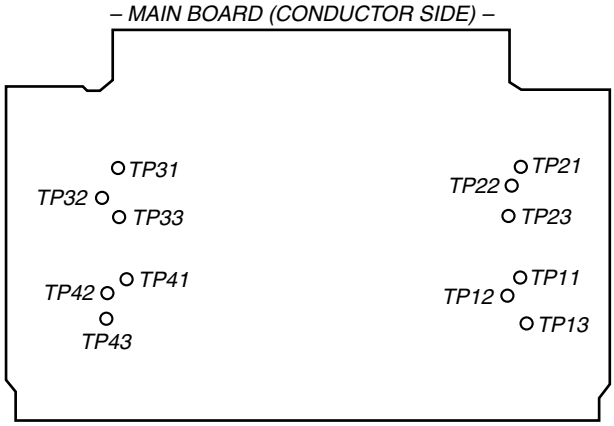
RV Ref. No.	Test points
RV104	TP11 and TP12
RV204	TP21 and TP22
RV304	TP31 and TP32
RV404	TP41 and TP42

6. Check the power supply current is at 1.2 to 1.6 A.

Adjustment Location :

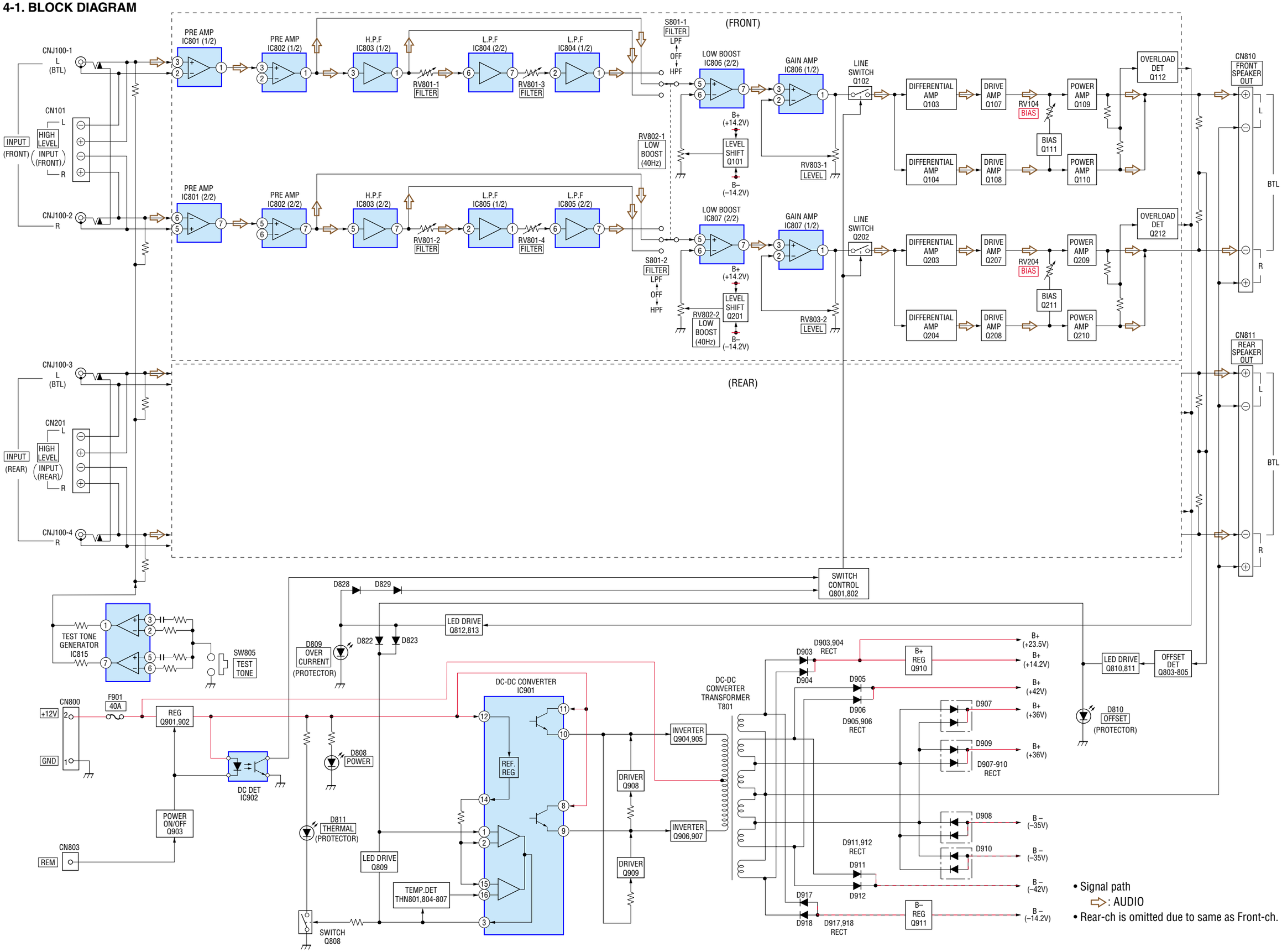


Test Point Location :



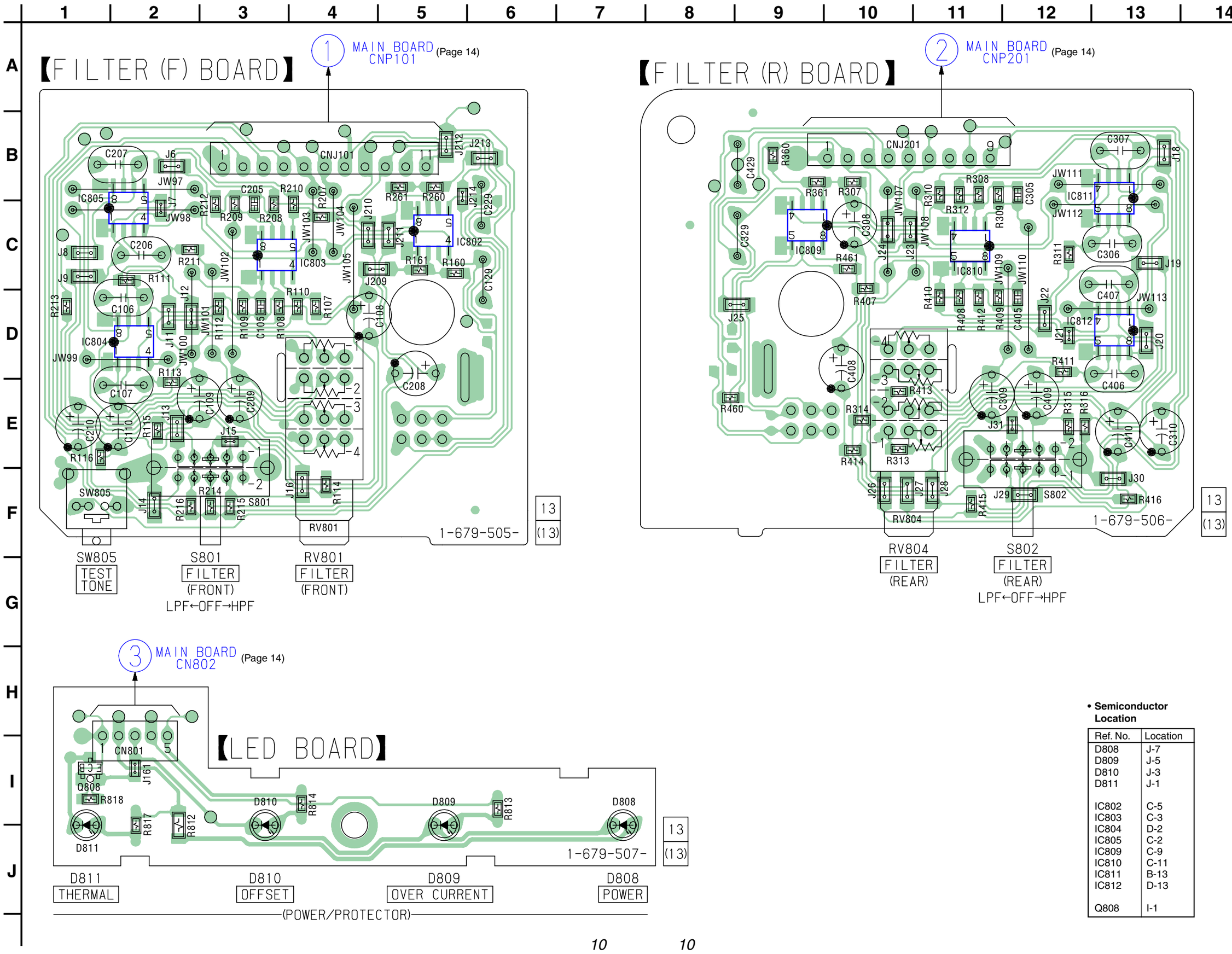
SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAM



- Signal path
  ⇨: AUDIO
- Rear-ch is omitted due to same as Front-ch.

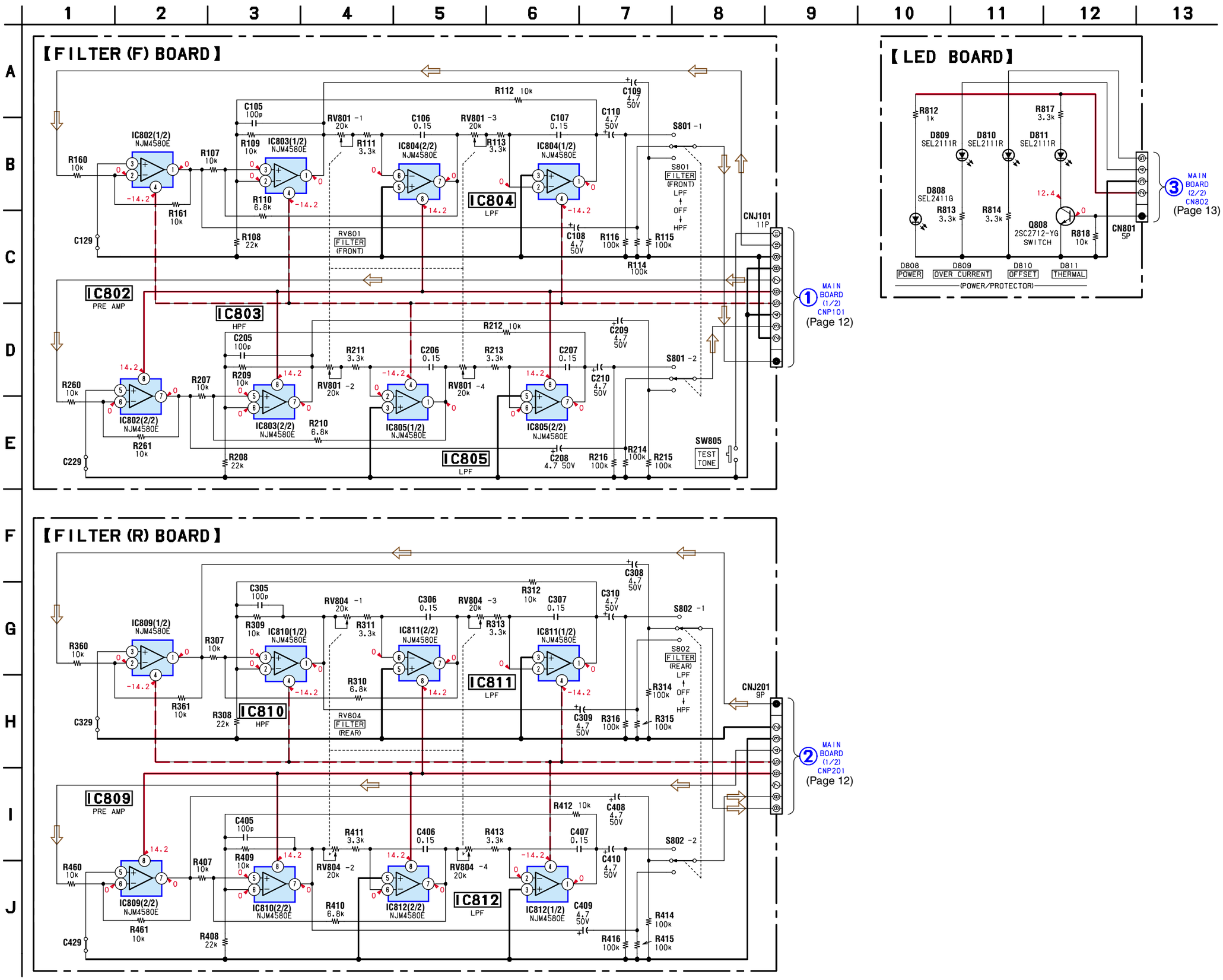
4-2. PRINTED WIRING BOARDS — FILTER (F), FILTER (R), LED SECTION — • Refer to page 15 for Common Note on Printed Wiring Boards.



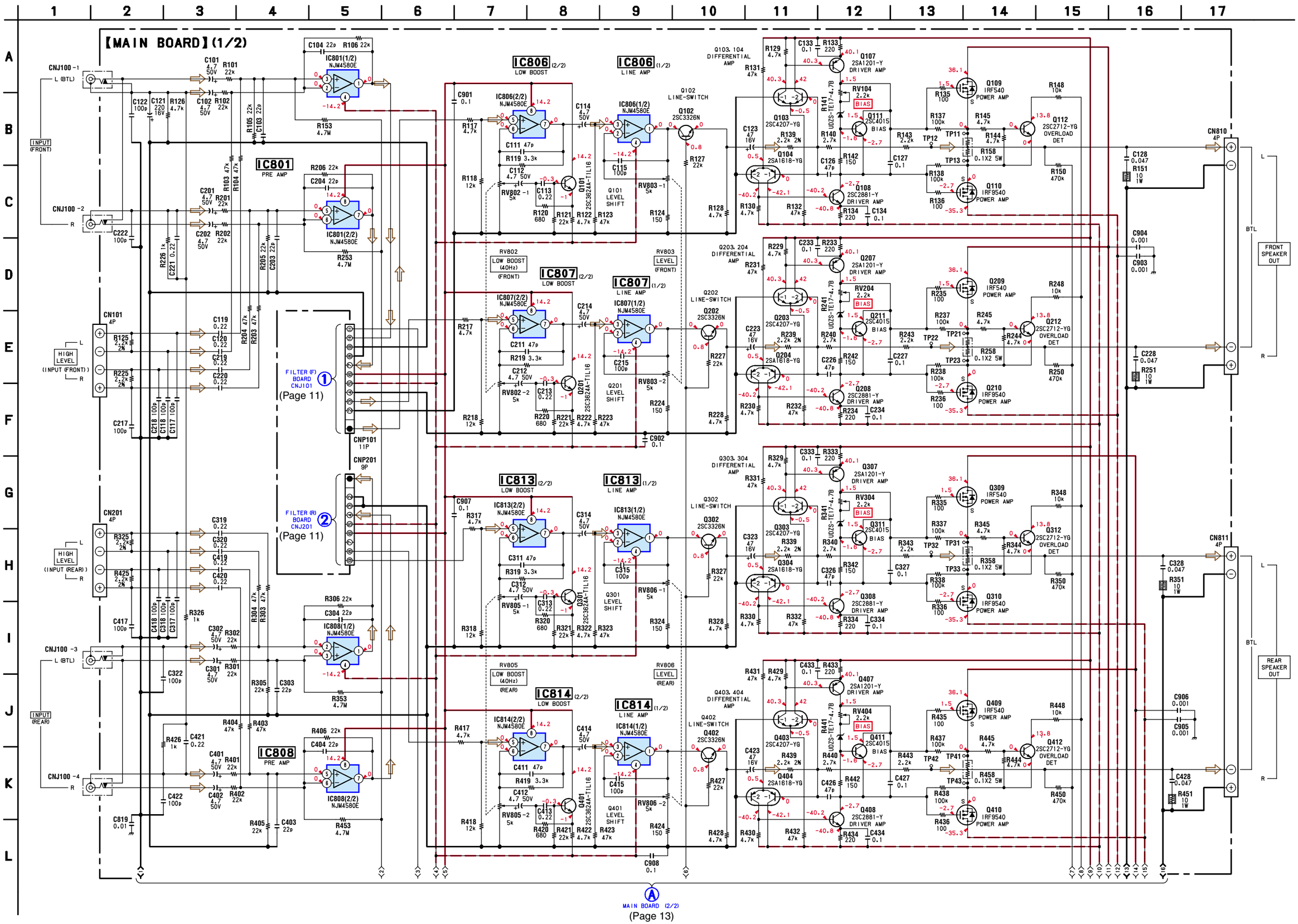
• **Semiconductor Location**

Ref. No.	Location
D808	J-7
D809	J-5
D810	J-3
D811	J-1
IC802	C-5
IC803	C-3
IC804	D-2
IC805	C-2
IC809	C-9
IC810	C-11
IC811	B-13
IC812	D-13
Q808	I-1

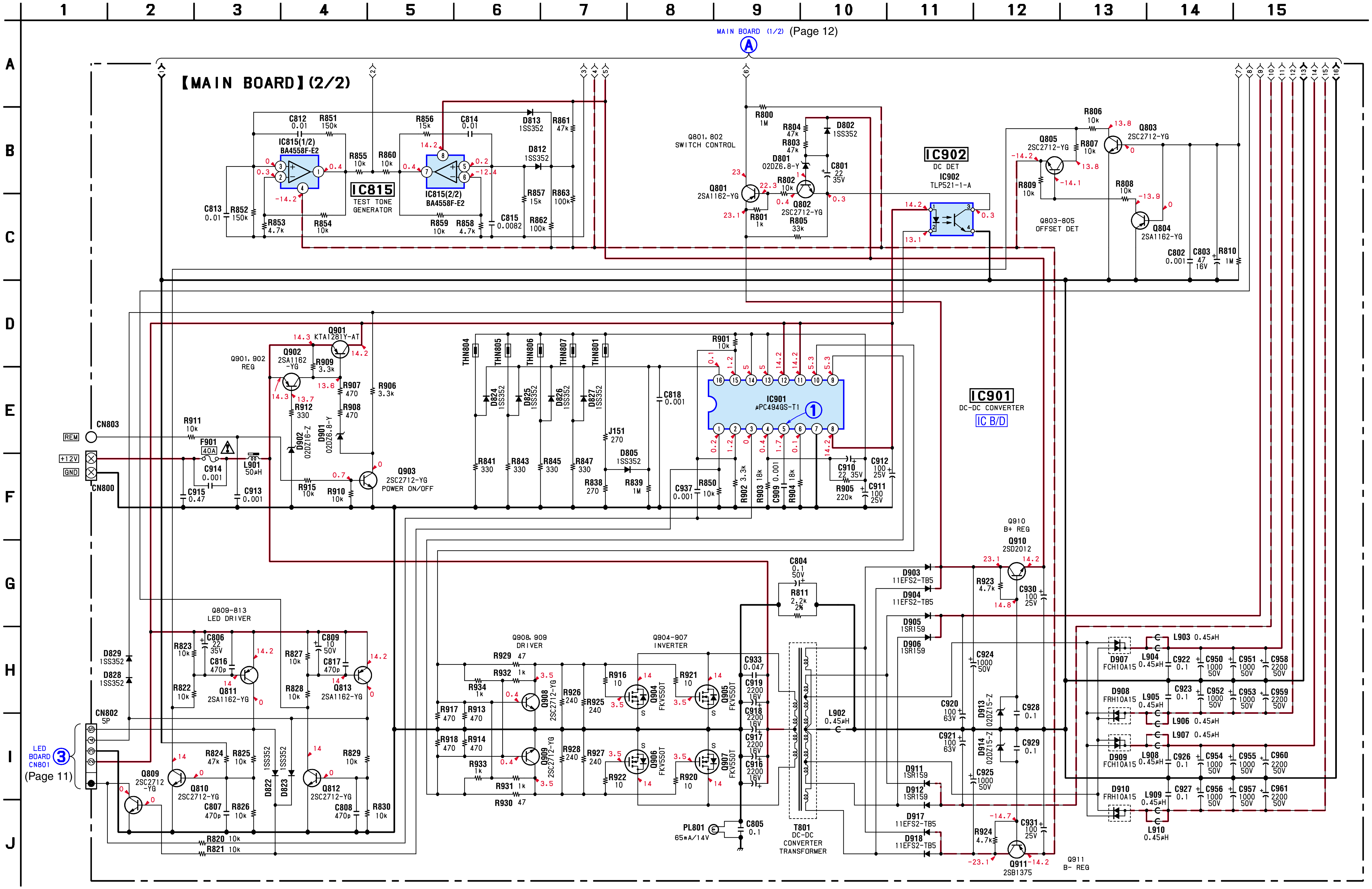
4-3. SCHEMATIC DIAGRAM — FILTER (F), FILTER (R), LED SECTION — • Refer to page 15 for Common Note on Schematic Diagrams.



4-4. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) — • Refer to page 15 for Common Note on Schematic Diagrams.

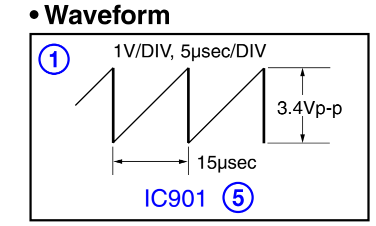


4-5. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 15 for IC Block Diagram and Common Note on Schematic Diagrams.

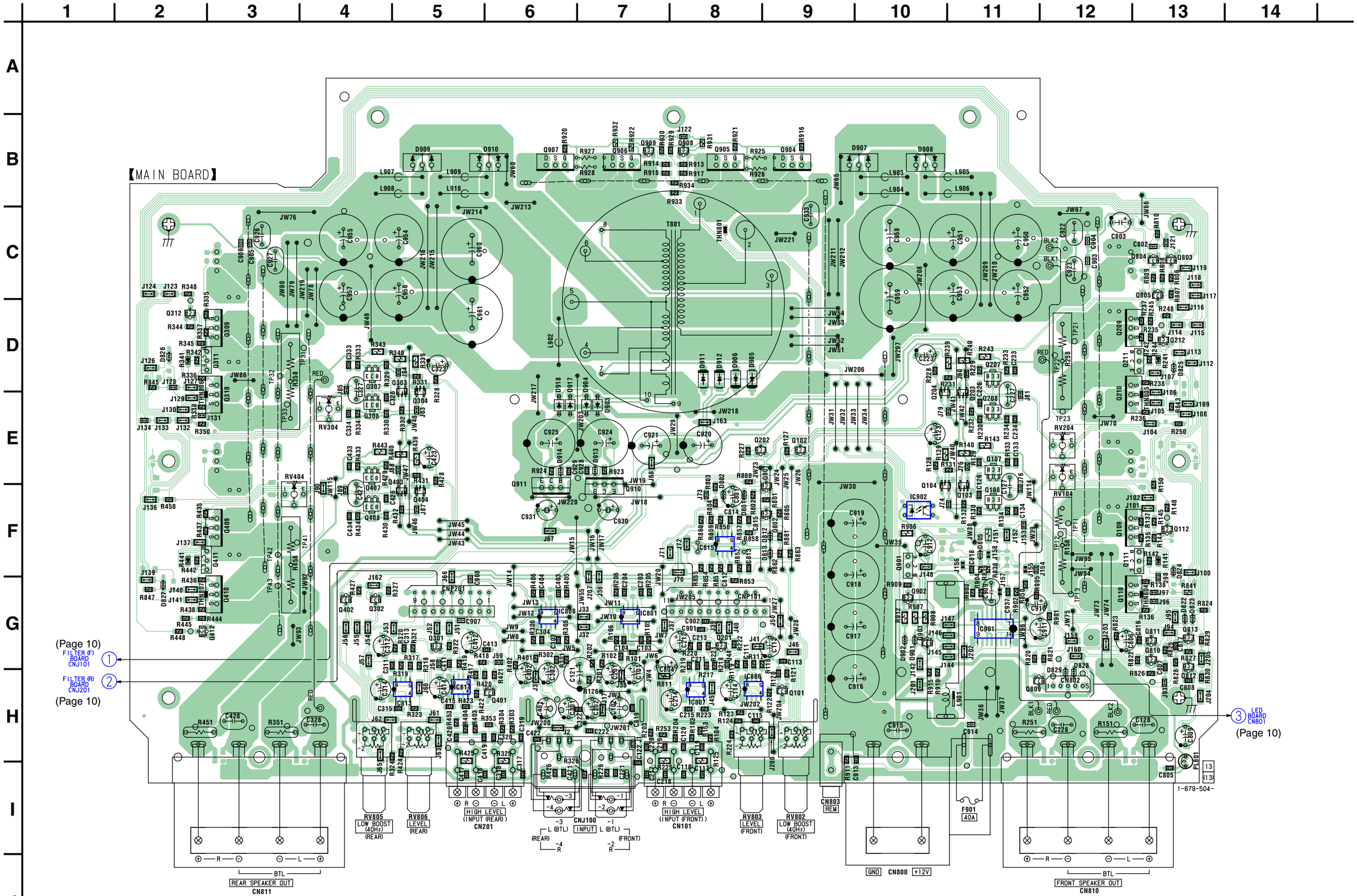


MAIN BOARD (1/2) (Page 12)
【MAIN BOARD】(2/2)
IC815 TEST TONE GENERATOR
IC815(1/2) BA4558F-E2
IC815(2/2) BA4558F-E2
Q801, 802 SWITCH CONTROL
Q801 2SA1162-YG
Q802 2SC2712-YG
IC902 DC DET
IC902 TLP521-1-A
Q803-805 OFFSET DET
Q803 2SC2712-YG
Q804 2SA1162-YG
Q805 2SC2712-YG
Q901, 902 REG
Q901 KTA1281Y-AT
Q902 2SA1162-YG
Q903 2SC2712-YG POWER ON/OFF
IC901 DC-DC CONVERTER
IC901 µPC494GS-T1
IC B/D
CN803
REM
+12V
GND
CN800
F901 40A
L901 50µH
Q809-813 LED DRIVER
Q809 2SC2712-YG
Q810 2SC2712-YG
Q811 2SA1162-YG
Q812 2SC2712-YG
Q813 2SA1162-YG
CN802 5P
LED BOARD CN801 (Page 11)
Q908, 909 DRIVER
Q908 2SC2712-YG
Q909 2SC2712-YG
Q904-907 INVERTER
Q904 FKV550T
Q905 FKV550T
Q906 FKV550T
Q907 FKV550T
PL801 65mA/14V
T801 DC-DC CONVERTER TRANSFORMER
L902 0.45µH
Q910 B+ REG
Q910 2SD2012
Q911 B- REG
Q911 2SB1375
D903 11EFS2-TB5
D904 11EFS2-TB5
D905 1SR159
D906 1SR159
D911 1SR159
D912 1SR159
D917 11EFS2-TB5
D918 11EFS2-TB5
D907 FCH10A15
D908 FRH10A15
D909 FCH10A15
D910 FRH10A15
L903 0.45µH
L904 0.45µH
L905 0.45µH
L906 0.45µH
L907 0.45µH
L908 0.45µH
L909 0.45µH
L910 0.45µH

• Waveform



4-6. PRINTED WIRING BOARD — MAIN SECTION — • Refer to page 15 for Semiconductor Location and Common Note on Printed Wiring Boards.



• Semiconductor Location (MAIN SECTION)

Ref. No.	Location	Ref. No.	Location
D801	F-8	Q111	F-13
D802	F-8	Q112	F-13
D805	F-11	Q201	G-8
D812	F-9	Q202	E-8
D813	F-9	Q203	E-11
D822	G-13	Q204	E-10
D823	G-13	Q207	D-11
D824	F-13	Q208	E-11
D825	D-13	Q209	D-12
D826	D-2	Q210	E-12
D827	G-2	Q211	D-13
D828	H-12	Q212	D-13
D829	H-12	Q301	G-5
D901	G-10	Q302	G-4
D902	G-10	Q303	E-5
D903	E-7	Q304	E-5
D904	E-7	Q307	D-4
D905	D-8	Q308	E-4
D906	D-8	Q309	D-3
D907	B-10	Q310	E-3
D908	B-10	Q311	D-3
D909	B-5	Q312	D-2
D910	B-6	Q401	H-6
D911	D-8	Q402	G-4
D912	D-8	Q403	F-5
D913	E-7	Q404	F-5
D914	E-6	Q407	F-4
D917	E-6	Q408	E-4
D918	E-6	Q409	F-3
		Q410	G-3
R141	F-13	Q411	F-3
R241	D-13	Q412	G-3
R341	D-2	Q801	F-9
R441	F-2	Q802	F-9
		Q803	C-13
IC801	G-7	Q804	C-13
IC806	H-8	Q805	C-13
IC807	H-8	Q809	H-11
IC808	G-6	Q810	G-13
IC813	H-5	Q811	G-13
IC814	H-5	Q812	G-13
IC815	F-8	Q813	G-13
IC901	G-11	Q901	F-10
IC902	F-10	Q902	G-10
		Q903	G-10
Q101	H-9	Q904	B-9
Q102	E-9	Q905	B-8
Q103	F-11	Q906	B-7
Q104	F-10	Q907	B-6
Q107	E-11	Q908	B-8
Q108	F-11	Q909	B-7
Q109	F-12	Q910	F-7
Q110	G-12	Q911	F-6

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- : nonflammable resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

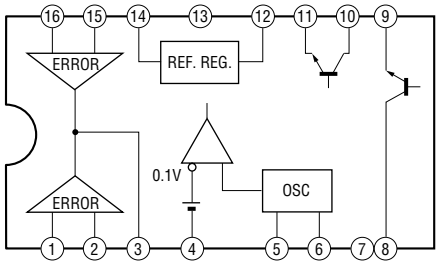
- : B+ Line.
- : B– Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from +12V and REM terminals.
- Voltage is dc with respect to ground under no-signal condition.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : AUDIO

for printed wiring boards:
Note:

- : parts extracted from the component side.
- : Pattern from the side which enables seeing.

• IC Block Diagram

IC901 µPC494GS-T1



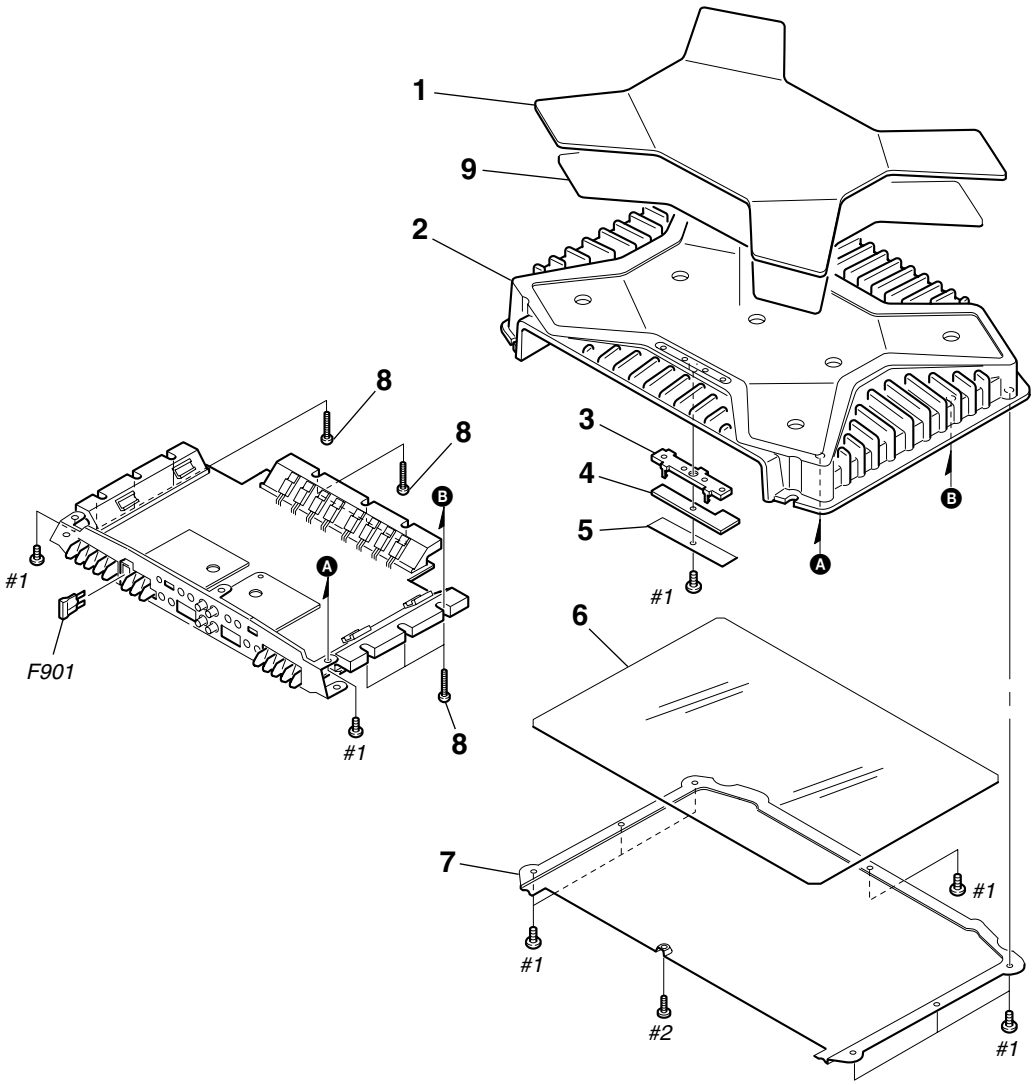
SECTION 5
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

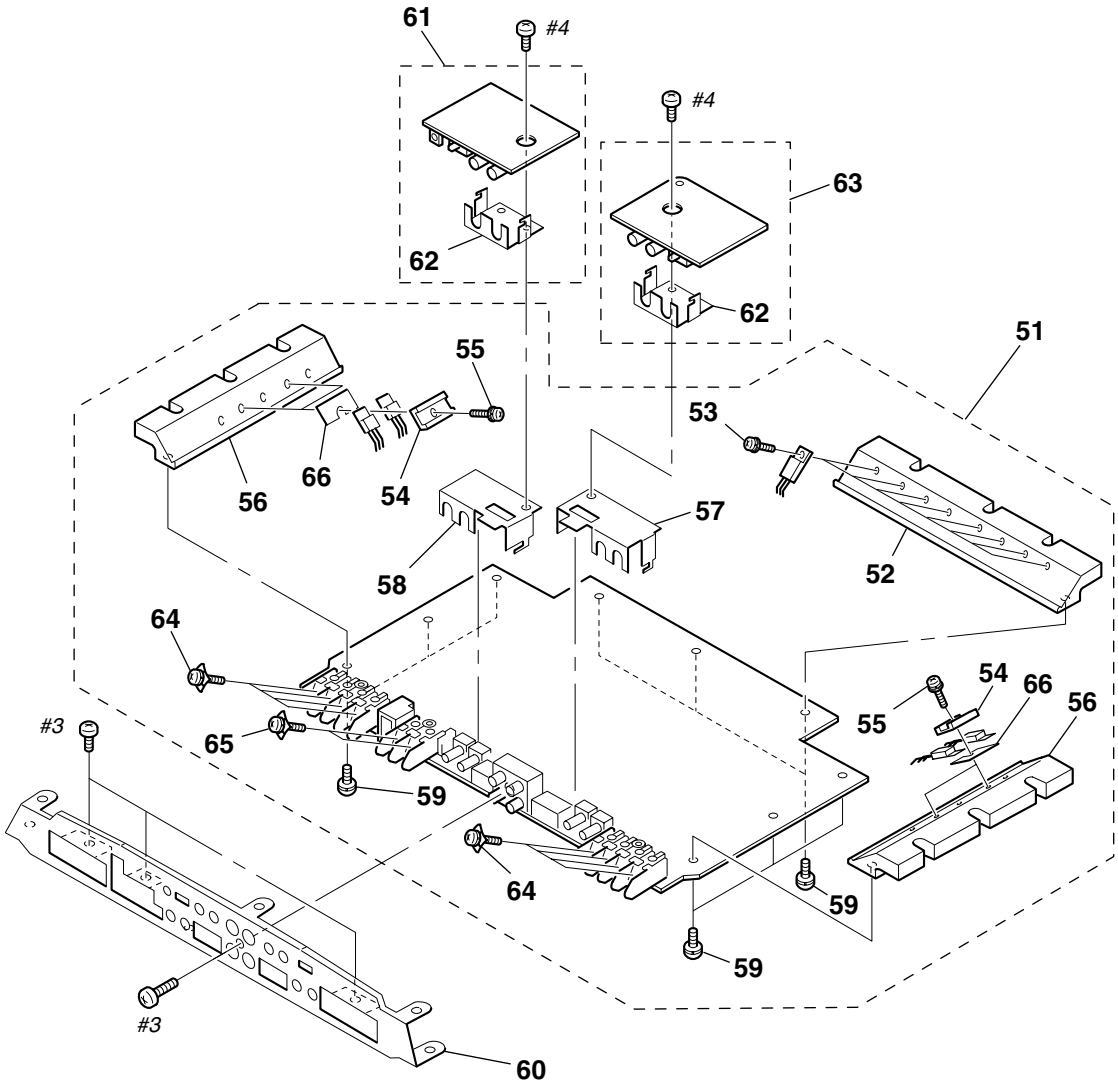
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1. HEAT SINK (MAIN) SECTION



Ref. No.	Part No.	Description	Remark
1	3-239-398-11	PLATE (HEAT SINK), ORNAMENTAL	
* 2	3-225-071-02	HEAT SINK (MAIN)	
* 3	3-225-065-01	HOLDER, LED	
4	1-681-206-11	LED BOARD	
* 5	3-225-152-02	SHEET (LED), INSULATING	
* 6	3-225-081-02	SHEET, INSULATING	
* 7	3-225-068-02	PLATE, BOTTOM	
8	3-225-185-01	SCREW (+B.TT.3X14)	
9	3-225-153-02	SHEET (HEAT SINK), ADHESIVE	
⚠F901	1-533-743-11	FUSE (BLADE TYPE) (AUTO FUSE) 40A	
#1	7-685-545-14	SCREW +BTP 3X6 TYPE2 N-S	
#2	7-627-556-07	SCREW, PRECISION +P 2.6X2.8	

5-2. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark
* 51	A-3326-756-A	MAIN BOARD, COMPLETE	
* 52	3-225-067-02	HEAT SINK (SUB 2)	
53	3-225-183-01	SCREW (+PSW.TT.3XL)	
* 54	3-225-080-01	HEAT SINK (RETAINER PLATE)	
55	3-225-183-11	SCREW (+PSW.TT.3XL)	
56	3-225-066-11	HEAT SINK (SUB 1)	
* 57	3-225-073-01	BRACKET (4CH.VR2)	
* 58	3-225-072-01	BRACKET (4CH.VR1)	
59	3-225-184-01	SCREW (+PS.TT.3X6)	

Ref. No.	Part No.	Description	Remark
* 60	3-225-074-11	PANEL (4CH), FRONT	
* 61	A-3326-757-A	FILTER (F) BOARD, COMPLETE	
* 62	3-225-076-01	BRACKET (5CH.VR3)	
* 63	A-3326-758-A	FILTER (R) BOARD, COMPLETE	
64	3-912-431-01	SCREW (P)	
65	3-369-647-01	SCREW (M4 SPACER)	
66	3-238-413-01	SHEET (TR), INSULATING	
#3	7-685-646-79	SCREW +P 3X8 TYPE2 NON-SLIT	
#4	7-685-870-01	SCREW +BVTT 3X5 (S)	

FILTER (F)

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3326-757-A	FILTER (F) BOARD, COMPLETE			
		**********			
*	3-225-076-01	BRACKET (5CH.VR3)			
		< CAPACITOR >			
C105	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C106	1-136-167-00	FILM	0.15uF	5%	50V
C107	1-136-167-00	FILM	0.15uF	5%	50V
C108	1-126-794-11	ELECT	4.7uF	20%	50V
C109	1-126-794-11	ELECT	4.7uF	20%	50V
C110	1-126-794-11	ELECT	4.7uF	20%	50V
C205	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C206	1-136-167-00	FILM	0.15uF	5%	50V
C207	1-136-167-00	FILM	0.15uF	5%	50V
C208	1-126-794-11	ELECT	4.7uF	20%	50V
C209	1-126-794-11	ELECT	4.7uF	20%	50V
C210	1-126-794-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
CNJ101	1-815-679-11	CONNECTOR, BOARD TO BOARD 11P			
		< IC >			
IC802	8-759-385-17	IC NJM4580E(TE2)			
IC803	8-759-385-17	IC NJM4580E(TE2)			
IC804	8-759-385-17	IC NJM4580E(TE2)			
IC805	8-759-385-17	IC NJM4580E(TE2)			
		< JUMPER RESISTOR >			
J6	1-216-296-11	SHORT	0		
J7	1-216-295-11	SHORT	0		
J8	1-216-296-11	SHORT	0		
J9	1-216-296-11	SHORT	0		
J11	1-216-296-11	SHORT	0		
J12	1-216-296-11	SHORT	0		
J13	1-216-296-11	SHORT	0		
J14	1-216-296-11	SHORT	0		
J15	1-216-295-11	SHORT	0		
J16	1-216-296-11	SHORT	0		
J209	1-216-296-11	SHORT	0		
J210	1-216-296-11	SHORT	0		
J211	1-216-296-11	SHORT	0		
J212	1-216-296-11	SHORT	0		
J213	1-216-296-11	SHORT	0		
J214	1-216-295-11	SHORT	0		
		< RESISTOR >			
R107	1-216-833-11	METAL CHIP	10K	5%	1/16W
R108	1-216-837-11	METAL CHIP	22K	5%	1/16W
R109	1-216-833-11	METAL CHIP	10K	5%	1/16W
R110	1-218-867-11	RES-CHIP	6.8K	5%	1/16W
R111	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R112	1-216-833-11	METAL CHIP	10K	5%	1/16W
R113	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R114	1-216-845-11	METAL CHIP	100K	5%	1/16W
R115	1-216-845-11	METAL CHIP	100K	5%	1/16W
R116	1-216-845-11	METAL CHIP	100K	5%	1/16W
R160	1-216-833-11	METAL CHIP	10K	5%	1/16W
R161	1-216-833-11	METAL CHIP	10K	5%	1/16W
R207	1-216-833-11	METAL CHIP	10K	5%	1/16W
R208	1-216-837-11	METAL CHIP	22K	5%	1/16W
R209	1-216-833-11	METAL CHIP	10K	5%	1/16W
R210	1-218-867-11	RES-CHIP	6.8K	5%	1/16W
R211	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R212	1-216-833-11	METAL CHIP	10K	5%	1/16W
R213	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R214	1-216-845-11	METAL CHIP	100K	5%	1/16W
R215	1-216-845-11	METAL CHIP	100K	5%	1/16W
R216	1-216-845-11	METAL CHIP	100K	5%	1/16W
R260	1-216-833-11	METAL CHIP	10K	5%	1/16W
R261	1-216-833-11	METAL CHIP	10K	5%	1/16W
		< VARIABLE RESISTOR >			
RV801	1-225-647-11	RES, VAR, CARBON 20KX4 (FILTER (FRONT))			
		< SWITCH >			
S801	1-572-185-11	SWITCH, SLIDE (FILTER (FRONT))			
SW805	1-762-638-11	SWITCH, TACTILE (TEST TONE)			
**********					

FILTER (R) LED

Ref. No.	Part No.	Description			Remark
*	A-3326-758-A	FILTER (R) BOARD, COMPLETE			
		**********			
*	3-225-076-01	BRACKET (5CH.VR3)			
		< CAPACITOR >			
C305	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C306	1-136-167-00	FILM	0.15uF	5%	50V
C307	1-136-167-00	FILM	0.15uF	5%	50V
C308	1-126-794-11	ELECT	4.7uF	20%	50V
C309	1-126-794-11	ELECT	4.7uF	20%	50V
C310	1-126-794-11	ELECT	4.7uF	20%	50V
C405	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C406	1-136-167-00	FILM	0.15uF	5%	50V
C407	1-136-167-00	FILM	0.15uF	5%	50V
C408	1-126-794-11	ELECT	4.7uF	20%	50V
C409	1-126-794-11	ELECT	4.7uF	20%	50V
C410	1-126-794-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
CNJ201	1-784-916-11	CONNECTOR, BOARD TO BOARD 9P			
		< IC >			
IC809	8-759-385-17	IC NJM4580E(TE2)			
IC810	8-759-385-17	IC NJM4580E(TE2)			
IC811	8-759-385-17	IC NJM4580E(TE2)			
IC812	8-759-385-17	IC NJM4580E(TE2)			
		< JUMPER RESISTOR >			
J18	1-216-296-11	SHORT	0		
J19	1-216-296-11	SHORT	0		
J20	1-216-296-11	SHORT	0		
J21	1-216-295-11	SHORT	0		
J22	1-216-296-11	SHORT	0		
J23	1-216-296-11	SHORT	0		
J24	1-216-296-11	SHORT	0		
J25	1-216-296-11	SHORT	0		
J26	1-216-296-11	SHORT	0		
J27	1-216-296-11	SHORT	0		
J28	1-216-296-11	SHORT	0		
J29	1-216-296-11	SHORT	0		
J30	1-216-296-11	SHORT	0		
J31	1-216-295-11	SHORT	0		
		< RESISTOR >			
R307	1-216-833-11	METAL CHIP	10K	5%	1/16W
R308	1-216-837-11	METAL CHIP	22K	5%	1/16W
R309	1-216-833-11	METAL CHIP	10K	5%	1/16W
R310	1-218-867-11	RES-CHIP	6.8K	5%	1/16W
R311	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R312	1-216-833-11	METAL CHIP	10K	5%	1/16W
R313	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R314	1-216-845-11	METAL CHIP	100K	5%	1/16W
R315	1-216-845-11	METAL CHIP	100K	5%	1/16W
R316	1-216-845-11	METAL CHIP	100K	5%	1/16W
R360	1-216-833-11	METAL CHIP	10K	5%	1/16W
R361	1-216-833-11	METAL CHIP	10K	5%	1/16W
R407	1-216-833-11	METAL CHIP	10K	5%	1/16W
R408	1-216-837-11	METAL CHIP	22K	5%	1/16W
R409	1-216-833-11	METAL CHIP	10K	5%	1/16W
R410	1-218-867-11	RES-CHIP	6.8K	5%	1/16W
R411	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R412	1-216-833-11	METAL CHIP	10K	5%	1/16W
R413	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R414	1-216-845-11	METAL CHIP	100K	5%	1/16W
R415	1-216-845-11	METAL CHIP	100K	5%	1/16W
R416	1-216-845-11	METAL CHIP	100K	5%	1/16W
R460	1-216-833-11	METAL CHIP	10K	5%	1/16W
R461	1-216-833-11	METAL CHIP	10K	5%	1/16W
		< VARIABLE RESISTOR >			
RV804	1-225-647-11	RES, VAR, CARBON 20KX4 (FILTER (REAR))			
		< SWITCH >			
S802	1-572-185-11	SWITCH, SLIDE (FILTER (REAR))			
**********					
	1-681-206-11	LED BOARD			
		**********			
*	3-225-065-01	HOLDER, LED			
		< DIODE >			
D808	8-719-064-23	LED SEL2411G (POWER)			
D809	8-719-302-91	LED SEL2111R (OVER CURRENT (PROTECTOR))			
D810	8-719-302-91	LED SEL2111R (OFFSET (PROTECTOR))			
D811	8-719-302-91	LED SEL2111R (THERMAL (PROTECTOR))			
		< JUMPER RESISTOR >			
J161	1-216-295-11	SHORT	0		
		< TRANSISTOR >			
Q808	8-729-230-49	TRANSISTOR 2SC2712-YG			
		< RESISTOR >			
R812	1-216-198-00	RES-CHIP	1K	5%	1/8W
R813	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R814	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R817	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R818	1-216-833-11	METAL CHIP	10K	5%	1/16W
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MAIN

Ref. No.	Part No.	Description			Remark
*	A-3326-756-A	MAIN BOARD, COMPLETE			
		**********			
	3-225-066-11	HEAT SINK (SUB 1)			
*	3-225-067-02	HEAT SINK (SUB 2)			
*	3-225-072-01	BRACKET (4CH.VR1)			
*	3-225-073-01	BRACKET (4CH.VR2)			
*	3-225-080-01	HEAT SINK (RETAINER PLATE)			
	3-238-413-01	SHEET (TR), INSULATING			
	3-225-183-01	SCREW (+PSW.TT.3XL)			
	3-225-183-11	SCREW (+PSW.TT.3XL)			
	3-225-184-01	SCREW (+PS.TT.3X6)			
	3-369-647-01	SCREW (M4 SPACER)			
	3-912-431-01	SCREW (P)			
	7-685-646-79	SCREW +P 3X8 TYPE2 NON-SLIT			
		< CAPACITOR >			
C101	1-126-794-11	ELECT	4.7uF	20%	50V
C102	1-126-794-11	ELECT	4.7uF	20%	50V
C103	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C104	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C111	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C112	1-126-794-11	ELECT	4.7uF	20%	50V
C113	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C114	1-126-794-11	ELECT	4.7uF	20%	50V
C115	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C117	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C118	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C119	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C120	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C121	1-128-499-11	ELECT	220uF	20%	16V
C122	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C123	1-126-786-11	ELECT	47uF	20%	16V
C126	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C127	1-136-165-00	FILM	0.1uF	5%	50V
C128	1-136-161-00	FILM	0.047uF	5%	50V
C133	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C134	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C201	1-126-794-11	ELECT	4.7uF	20%	50V
C202	1-126-794-11	ELECT	4.7uF	20%	50V
C203	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C204	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C211	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C212	1-126-794-11	ELECT	4.7uF	20%	50V
C213	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C214	1-126-794-11	ELECT	4.7uF	20%	50V
C215	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C217	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C218	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C219	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C220	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C221	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C222	1-162-927-11	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remark
C223	1-126-786-11	ELECT	47uF	20%	16V
C226	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C227	1-136-165-00	FILM	0.1uF	5%	50V
C228	1-136-161-00	FILM	0.047uF	5%	50V
C233	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C234	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C301	1-126-794-11	ELECT	4.7uF	20%	50V
C302	1-126-794-11	ELECT	4.7uF	20%	50V
C303	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C304	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C311	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C312	1-126-794-11	ELECT	4.7uF	20%	50V
C313	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C314	1-126-794-11	ELECT	4.7uF	20%	50V
C315	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C317	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C318	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C319	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C320	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C322	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C323	1-126-786-11	ELECT	47uF	20%	16V
C326	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C327	1-136-165-00	FILM	0.1uF	5%	50V
C328	1-136-161-00	FILM	0.047uF	5%	50V
C333	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C334	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C401	1-126-794-11	ELECT	4.7uF	20%	50V
C402	1-126-794-11	ELECT	4.7uF	20%	50V
C403	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C404	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C411	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C412	1-126-794-11	ELECT	4.7uF	20%	50V
C413	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C414	1-126-794-11	ELECT	4.7uF	20%	50V
C415	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C417	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C418	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C419	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C420	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C421	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C422	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C423	1-126-786-11	ELECT	47uF	20%	16V
C426	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C427	1-136-165-00	FILM	0.1uF	5%	50V
C428	1-136-161-00	FILM	0.047uF	5%	50V
C433	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C434	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C801	1-126-796-11	ELECT	22uF	20%	35V
C802	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C803	1-126-786-11	ELECT	47uF	20%	16V
C804	1-115-867-11	ELECT	0.1uF	20%	50V
C805	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C806	1-126-796-11	ELECT	22uF	20%	35V

Ref. No.	Part No.	Description			Remark
C807	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C808	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C809	1-126-964-11	ELECT	10uF	20%	50V
C812	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C813	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C814	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C815	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C816	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C817	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C818	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C819	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C901	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C902	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C903	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C904	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C905	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C906	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C907	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C908	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C909	1-130-471-00	MYLAR	0.001uF	5%	50V
C910	1-126-796-11	ELECT	22uF	20%	35V
C911	1-104-665-11	ELECT	100uF	20%	25V
C912	1-104-665-11	ELECT	100uF	20%	25V
C913	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C914	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C915	1-137-194-11	FILM	0.47uF	5%	50V
C916	1-131-731-11	ELECT	2200uF	20%	16V
C917	1-131-731-11	ELECT	2200uF	20%	16V
C918	1-131-731-11	ELECT	2200uF	20%	16V
C919	1-131-731-11	ELECT	2200uF	20%	16V
C920	1-128-576-11	ELECT	100uF	20%	63V
C921	1-128-576-11	ELECT	100uF	20%	63V
C922	1-136-165-00	FILM	0.1uF	5%	50V
C923	1-136-165-00	FILM	0.1uF	5%	50V
C924	1-126-972-11	ELECT	1000uF	20%	50V
C925	1-126-972-11	ELECT	1000uF	20%	50V
C926	1-136-165-00	FILM	0.1uF	5%	50V
C927	1-136-165-00	FILM	0.1uF	5%	50V
C928	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C929	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C930	1-104-665-11	ELECT	100uF	20%	25V
C931	1-104-665-11	ELECT	100uF	20%	25V
C933	1-136-161-00	FILM	0.047uF	5%	50V
C937	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C950	1-126-972-11	ELECT	1000uF	20%	50V
C951	1-126-972-11	ELECT	1000uF	20%	50V
C952	1-126-972-11	ELECT	1000uF	20%	50V
C953	1-126-972-11	ELECT	1000uF	20%	50V
C954	1-126-972-11	ELECT	1000uF	20%	50V
C955	1-126-972-11	ELECT	1000uF	20%	50V
C956	1-126-972-11	ELECT	1000uF	20%	50V
C957	1-126-972-11	ELECT	1000uF	20%	50V
C958	1-100-199-31	ELECT	2200uF	20%	50V

Ref. No.	Part No.	Description			Remark
C959	1-100-199-31	ELECT	2200uF	20%	50V
C960	1-100-199-31	ELECT	2200uF	20%	50V
C961	1-100-199-31	ELECT	2200uF	20%	50V
		< CONNECTOR >			
CN101	1-794-219-11	CONNECTOR 4P (HIGH LEVEL (INPUT (FRONT)))			
CN201	1-794-219-11	CONNECTOR 4P (HIGH LEVEL (INPUT (REAR)))			
* CN802	1-568-954-11	PIN, CONNECTOR 5P			
CN803	1-815-300-11	CONNECTOR 1P (REM)			
CNP101	1-815-680-11	PIN, CONNECTOR (PWB) 11P			
CNP201	1-784-917-11	PIN, CONNECTOR (PWB) 9P			
		< TERMINAL BOARD >			
CN800	1-694-755-11	TERMINAL BOARD (2P+FUSE) (+12V,GND)			
CN810	1-694-756-11	TERMINAL BOARD (4P) (FRONT SPEAKER OUT)			
CN811	1-694-756-11	TERMINAL BOARD (4P) (REAR SPEAKER OUT)			
		< JACK >			
CNJ100	1-779-078-41	JACK, PIN 4P (INPUT (FRONT/REAR))			
		< DIODE >			
D801	8-719-065-18	DIODE 02DZ6.8-Y(TPH3)			
D802	8-719-016-74	DIODE 1SS352			
D805	8-719-016-74	DIODE 1SS352			
D812	8-719-016-74	DIODE 1SS352			
D813	8-719-016-74	DIODE 1SS352			
D822	8-719-016-74	DIODE 1SS352			
D823	8-719-016-74	DIODE 1SS352			
D824	8-719-016-74	DIODE 1SS352			
D825	8-719-016-74	DIODE 1SS352			
D826	8-719-016-74	DIODE 1SS352			
D827	8-719-016-74	DIODE 1SS352			
D828	8-719-016-74	DIODE 1SS352			
D829	8-719-016-74	DIODE 1SS352			
D901	8-719-065-18	DIODE 02DZ6.8-Y(TPH3)			
D902	8-719-065-46	DIODE 02DZ16-Z(TPH3)			
D903	8-719-987-67	DIODE 11EFS2			
D904	8-719-987-67	DIODE 11EFS2			
D905	8-719-079-92	DIODE 1SR159-200TE25			
D906	8-719-079-92	DIODE 1SR159-200TE25			
D907	8-719-079-00	DIODE FCH10A15			
D908	8-719-079-01	DIODE FRH10A15			
D909	8-719-079-00	DIODE FCH10A15			
D910	8-719-079-01	DIODE FRH10A15			
D911	8-719-079-92	DIODE 1SR159-200TE25			
D912	8-719-079-92	DIODE 1SR159-200TE25			
D913	8-719-065-43	DIODE 02DZ15-Z(TPH3)			
D914	8-719-065-43	DIODE 02DZ15-Z(TPH3)			
D917	8-719-987-67	DIODE 11EFS2			
D918	8-719-987-67	DIODE 11EFS2			
R141	8-719-083-60	DIODE UDZS-TE17-4.7B			

MAIN

Ref. No.	Part No.	Description		Remark
R241	8-719-083-60	DIODE UDZS-TE17-4.7B		
R341	8-719-083-60	DIODE UDZS-TE17-4.7B		
R441	8-719-083-60	DIODE UDZS-TE17-4.7B		
		< IC >		
IC801	8-759-385-17	IC NJM4580E(TE2)		
IC806	8-759-385-17	IC NJM4580E(TE2)		
IC807	8-759-385-17	IC NJM4580E(TE2)		
IC808	8-759-385-17	IC NJM4580E(TE2)		
IC813	8-759-385-17	IC NJM4580E(TE2)		
IC814	8-759-385-17	IC NJM4580E(TE2)		
IC815	8-759-909-71	IC BA4558F		
IC901	8-759-144-88	IC uPC494GS		
		< PHOTO TRANSISTOR >		
IC902	8-719-800-42	PHOTO TRANSISTOR TLP521-1-A		
		< JUMPER RESISTOR >		
J1	1-216-295-11	SHORT	0	
J2	1-216-296-11	SHORT	0	
J3	1-216-296-11	SHORT	0	
J17	1-216-296-11	SHORT	0	
J32	1-216-296-11	SHORT	0	
J33	1-216-296-11	SHORT	0	
J36	1-216-296-11	SHORT	0	
J37	1-216-296-11	SHORT	0	
J38	1-216-296-11	SHORT	0	
J39	1-216-296-11	SHORT	0	
J40	1-216-296-11	SHORT	0	
J41	1-216-296-11	SHORT	0	
J44	1-216-295-11	SHORT	0	
J45	1-216-296-11	SHORT	0	
J46	1-216-296-11	SHORT	0	
J50	1-216-296-11	SHORT	0	
J51	1-216-296-11	SHORT	0	
J52	1-216-296-11	SHORT	0	
J53	1-216-296-11	SHORT	0	
J54	1-216-296-11	SHORT	0	
J55	1-216-296-11	SHORT	0	
J56	1-216-296-11	SHORT	0	
J57	1-216-296-11	SHORT	0	
J58	1-216-295-11	SHORT	0	
J59	1-216-295-11	SHORT	0	
J60	1-216-296-11	SHORT	0	
J61	1-216-296-11	SHORT	0	
J62	1-216-296-11	SHORT	0	
J63	1-216-296-11	SHORT	0	
J65	1-216-296-11	SHORT	0	
J66	1-216-296-11	SHORT	0	
J67	1-216-296-11	SHORT	0	
J68	1-216-296-11	SHORT	0	
J70	1-216-296-11	SHORT	0	
J71	1-216-296-11	SHORT	0	

Ref. No.	Part No.	Description		Remark
J72	1-216-296-11	SHORT	0	
J73	1-216-295-11	SHORT	0	
J74	1-216-295-11	SHORT	0	
J75	1-216-295-11	SHORT	0	
J76	1-216-295-11	SHORT	0	
J79	1-216-295-11	SHORT	0	
J80	1-216-295-11	SHORT	0	
J81	1-216-295-11	SHORT	0	
J83	1-216-295-11	SHORT	0	
J84	1-216-295-11	SHORT	0	
J85	1-216-295-11	SHORT	0	
J87	1-216-295-11	SHORT	0	
J88	1-216-295-11	SHORT	0	
J89	1-216-295-11	SHORT	0	
J90	1-216-296-11	SHORT	0	
J93	1-216-295-11	SHORT	0	
J94	1-216-296-11	SHORT	0	
J95	1-216-296-11	SHORT	0	
J96	1-216-295-11	SHORT	0	
J97	1-216-295-11	SHORT	0	
J98	1-216-295-11	SHORT	0	
J100	1-216-296-11	SHORT	0	
J101	1-216-296-11	SHORT	0	
J102	1-216-296-11	SHORT	0	
J104	1-216-296-11	SHORT	0	
J105	1-216-296-11	SHORT	0	
J106	1-216-296-11	SHORT	0	
J107	1-216-296-11	SHORT	0	
J108	1-216-296-11	SHORT	0	
J109	1-216-296-11	SHORT	0	
J112	1-216-296-11	SHORT	0	
J113	1-216-296-11	SHORT	0	
J114	1-216-296-11	SHORT	0	
J115	1-216-296-11	SHORT	0	
J116	1-216-296-11	SHORT	0	
J117	1-216-296-11	SHORT	0	
J118	1-216-296-11	SHORT	0	
J119	1-216-296-11	SHORT	0	
J121	1-216-295-11	SHORT	0	
J122	1-216-295-11	SHORT	0	
J123	1-216-296-11	SHORT	0	
J124	1-216-296-11	SHORT	0	
J126	1-216-296-11	SHORT	0	
J127	1-216-296-11	SHORT	0	
J128	1-216-295-11	SHORT	0	
J129	1-216-296-11	SHORT	0	
J130	1-216-296-11	SHORT	0	
J131	1-216-295-11	SHORT	0	
J132	1-216-296-11	SHORT	0	
J133	1-216-296-11	SHORT	0	
J134	1-216-295-11	SHORT	0	
J136	1-216-296-11	SHORT	0	
J137	1-216-296-11	SHORT	0	

Ref. No.	Part No.	Description			Remark
J139	1-216-296-11	SHORT	0		
J140	1-216-296-11	SHORT	0		
J141	1-216-296-11	SHORT	0		
J142	1-216-296-11	SHORT	0		
J144	1-216-296-11	SHORT	0		
J145	1-216-296-11	SHORT	0		
J146	1-216-296-11	SHORT	0		
J147	1-216-296-11	SHORT	0		
J148	1-216-296-11	SHORT	0		
J151	1-218-780-11	RES-CHIP	270	5%	1/4W
J152	1-216-296-11	SHORT	0		
J153	1-216-295-11	SHORT	0		
J154	1-216-295-11	SHORT	0		
J155	1-216-864-11	METAL CHIP	0	5%	1/16W
J156	1-216-864-11	METAL CHIP	0	5%	1/16W
J157	1-216-864-11	METAL CHIP	0	5%	1/16W
J158	1-216-864-11	METAL CHIP	0	5%	1/16W
J159	1-216-296-11	SHORT	0		
J160	1-216-296-11	SHORT	0		
J162	1-216-296-11	SHORT	0		
J163	1-216-296-11	SHORT	0		
J200	1-216-296-11	SHORT	0		
J201	1-216-296-11	SHORT	0		
J202	1-216-296-11	SHORT	0		
J203	1-216-296-11	SHORT	0		
J204	1-216-296-11	SHORT	0		
J205	1-216-296-11	SHORT	0		
J207	1-216-296-11	SHORT	0		
		< COIL >			
L901	1-419-851-21	COIL, CHOKE	50uH		
L902	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L903	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L904	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L905	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L906	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L907	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L908	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L909	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L910	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
		< PILOT LAMP >			
PL801	1-517-156-11	LAMP, PILOT (65mA/14V)			
		< TRANSISTOR >			
Q101	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q102	8-729-202-38	TRANSISTOR	2SC3326N-A		
Q103	8-729-014-87	TRANSISTOR	2SC4207-YGR-TE85R		
Q104	8-729-014-85	TRANSISTOR	2SA1618-YGR-TE85R		
Q107	8-729-046-32	TRANSISTOR	2SA1201-Y(TE12L.C)		
Q108	8-729-051-72	TRANSISTOR	2SC2881-Y(TE12L.C)		
Q109	8-729-924-78	FET	IRF540		
Q110	8-729-053-85	FET	IRF9540		

Ref. No.	Part No.	Description	Remark
Q111	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q112	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q201	8-729-141-73	TRANSISTOR 2SC3624A-T1L15L16	
Q202	8-729-202-38	TRANSISTOR 2SC3326N-A	
Q203	8-729-014-87	TRANSISTOR 2SC4207-YGR-TE85R	
Q204	8-729-014-85	TRANSISTOR 2SA1618-YGR-TE85R	
Q207	8-729-046-32	TRANSISTOR 2SA1201-Y(TE12L.C)	
Q208	8-729-051-72	TRANSISTOR 2SC2881-Y(TE12L.C)	
Q209	8-729-924-78	FET IRF540	
Q210	8-729-053-85	FET IRF9540	
Q211	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q212	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q301	8-729-141-73	TRANSISTOR 2SC3624A-T1L15L16	
Q302	8-729-202-38	TRANSISTOR 2SC3326N-A	
Q303	8-729-014-87	TRANSISTOR 2SC4207-YGR-TE85R	
Q304	8-729-014-85	TRANSISTOR 2SA1618-YGR-TE85R	
Q307	8-729-046-32	TRANSISTOR 2SA1201-Y(TE12L.C)	
Q308	8-729-051-72	TRANSISTOR 2SC2881-Y(TE12L.C)	
Q309	8-729-924-78	FET IRF540	
Q310	8-729-053-85	FET IRF9540	
Q311	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q312	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q401	8-729-141-73	TRANSISTOR 2SC3624A-T1L15L16	
Q402	8-729-202-38	TRANSISTOR 2SC3326N-A	
Q403	8-729-014-87	TRANSISTOR 2SC4207-YGR-TE85R	
Q404	8-729-014-85	TRANSISTOR 2SA1618-YGR-TE85R	
Q407	8-729-046-32	TRANSISTOR 2SA1201-Y(TE12L.C)	
Q408	8-729-051-72	TRANSISTOR 2SC2881-Y(TE12L.C)	
Q409	8-729-924-78	FET IRF540	
Q410	8-729-053-85	FET IRF9540	
Q411	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q412	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q801	8-729-216-22	TRANSISTOR 2SA1162-G	
Q802	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q803	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q804	8-729-216-22	TRANSISTOR 2SA1162-G	
Q805	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q809	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q810	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q811	8-729-216-22	TRANSISTOR 2SA1162-G	
Q812	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q813	8-729-216-22	TRANSISTOR 2SA1162-G	
Q901	8-729-052-82	TRANSISTOR KTA1281Y-AT	
Q902	8-729-216-22	TRANSISTOR 2SA1162-G	
Q903	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q904	8-729-053-05	FET FKV550T	
Q905	8-729-053-05	FET FKV550T	
Q906	8-729-053-05	FET FKV550T	
Q907	8-729-053-05	FET FKV550T	
Q908	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q909	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q910	8-729-209-15	TRANSISTOR 2SD2012	
Q911	8-729-209-60	TRANSISTOR 2SB1375	

MAIN

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-837-11	METAL CHIP	22K	5%	1/16W
R102	1-216-837-11	METAL CHIP	22K	5%	1/16W
R103	1-216-841-11	METAL CHIP	47K	5%	1/16W
R104	1-216-841-11	METAL CHIP	47K	5%	1/16W
R105	1-216-837-11	METAL CHIP	22K	5%	1/16W
R106	1-216-837-11	METAL CHIP	22K	5%	1/16W
R117	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R118	1-216-834-11	METAL CHIP	12K	5%	1/16W
R119	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R120	1-216-819-11	METAL CHIP	680	5%	1/16W
R121	1-216-837-11	METAL CHIP	22K	5%	1/16W
R122	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R123	1-216-841-11	METAL CHIP	47K	5%	1/16W
R124	1-216-811-11	METAL CHIP	150	5%	1/16W
R125	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R126	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R127	1-216-837-11	METAL CHIP	22K	5%	1/16W
R128	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R129	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R130	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R131	1-216-841-11	METAL CHIP	47K	5%	1/16W
R132	1-216-841-11	METAL CHIP	47K	5%	1/16W
R133	1-216-033-00	METAL CHIP	220	5%	1/10W
R134	1-216-033-00	METAL CHIP	220	5%	1/10W
R135	1-216-809-11	METAL CHIP	100	5%	1/16W
R136	1-216-809-11	METAL CHIP	100	5%	1/16W
R137	1-216-845-11	METAL CHIP	100K	5%	1/16W
R138	1-216-845-11	METAL CHIP	100K	5%	1/16W
R139	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R140	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R142	1-216-811-11	METAL CHIP	150	5%	1/10W
R143	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R144	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R145	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R148	1-216-833-11	METAL CHIP	10K	5%	1/16W
R150	1-216-853-11	METAL CHIP	470K	5%	1/16W
R151	1-215-857-11	METAL OXIDE	10	5%	1W F
R153	1-220-397-11	RES-CHIP	4.7M	5%	1/16W
R158	1-205-991-11	METAL	0.1X2	10%	5W
R201	1-216-837-11	METAL CHIP	22K	5%	1/16W
R202	1-216-837-11	METAL CHIP	22K	5%	1/16W
R203	1-216-841-11	METAL CHIP	47K	5%	1/16W
R204	1-216-841-11	METAL CHIP	47K	5%	1/16W
R205	1-216-837-11	METAL CHIP	22K	5%	1/16W
R206	1-216-837-11	METAL CHIP	22K	5%	1/16W
R217	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R218	1-216-834-11	METAL CHIP	12K	5%	1/16W
R219	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R220	1-216-819-11	METAL CHIP	680	5%	1/16W
R221	1-216-837-11	METAL CHIP	22K	5%	1/16W
R222	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R223	1-216-841-11	METAL CHIP	47K	5%	1/16W
R224	1-216-811-11	METAL CHIP	150	5%	1/16W
R225	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R226	1-216-821-11	METAL CHIP	1K	5%	1/16W
R227	1-216-837-11	METAL CHIP	22K	5%	1/16W
R228	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R229	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R230	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R231	1-216-841-11	METAL CHIP	47K	5%	1/16W
R232	1-216-841-11	METAL CHIP	47K	5%	1/16W
R233	1-216-033-00	METAL CHIP	220	5%	1/10W
R234	1-216-033-00	METAL CHIP	220	5%	1/10W
R235	1-216-809-11	METAL CHIP	100	5%	1/16W
R236	1-216-809-11	METAL CHIP	100	5%	1/16W
R237	1-216-845-11	METAL CHIP	100K	5%	1/16W
R238	1-216-845-11	METAL CHIP	100K	5%	1/16W
R239	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R240	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R242	1-216-811-11	METAL CHIP	150	5%	1/10W
R243	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R244	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R245	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R248	1-216-833-11	METAL CHIP	10K	5%	1/16W
R250	1-216-853-11	METAL CHIP	470K	5%	1/16W
R251	1-215-857-11	METAL OXIDE	10	5%	1W F
R253	1-220-397-11	RES-CHIP	4.7M	5%	1/16W
R258	1-205-991-11	METAL	0.1X2	10%	5W
R301	1-216-837-11	METAL CHIP	22K	5%	1/16W
R302	1-216-837-11	METAL CHIP	22K	5%	1/16W
R303	1-216-841-11	METAL CHIP	47K	5%	1/16W
R304	1-216-841-11	METAL CHIP	47K	5%	1/16W
R305	1-216-837-11	METAL CHIP	22K	5%	1/16W
R306	1-216-837-11	METAL CHIP	22K	5%	1/16W
R317	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R318	1-216-834-11	METAL CHIP	12K	5%	1/16W
R319	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R320	1-216-819-11	METAL CHIP	680	5%	1/16W
R321	1-216-837-11	METAL CHIP	22K	5%	1/16W
R322	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R323	1-216-841-11	METAL CHIP	47K	5%	1/16W
R324	1-216-811-11	METAL CHIP	150	5%	1/16W
R325	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R326	1-216-821-11	METAL CHIP	1K	5%	1/16W
R327	1-216-837-11	METAL CHIP	22K	5%	1/16W
R328	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R329	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R330	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R331	1-216-841-11	METAL CHIP	47K	5%	1/16W
R332	1-216-841-11	METAL CHIP	47K	5%	1/16W
R333	1-216-033-00	METAL CHIP	220	5%	1/10W
R334	1-216-033-00	METAL CHIP	220	5%	1/10W
R335	1-216-809-11	METAL CHIP	100	5%	1/16W
R336	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remark
R337	1-216-845-11	METAL CHIP	100K	5%	1/16W
R338	1-216-845-11	METAL CHIP	100K	5%	1/16W
R339	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R340	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R342	1-216-811-11	METAL CHIP	150	5%	1/10W
R343	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R344	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R345	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R348	1-216-833-11	METAL CHIP	10K	5%	1/16W
R350	1-216-853-11	METAL CHIP	470K	5%	1/16W
R351	1-215-857-11	METAL OXIDE	10	5%	1W F
R353	1-220-397-11	RES-CHIP	4.7M	5%	1/16W
R358	1-205-991-11	METAL	0.1X2	10%	5W
R401	1-216-837-11	METAL CHIP	22K	5%	1/16W
R402	1-216-837-11	METAL CHIP	22K	5%	1/16W
R403	1-216-841-11	METAL CHIP	47K	5%	1/16W
R404	1-216-841-11	METAL CHIP	47K	5%	1/16W
R405	1-216-837-11	METAL CHIP	22K	5%	1/16W
R406	1-216-837-11	METAL CHIP	22K	5%	1/16W
R417	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R418	1-216-834-11	METAL CHIP	12K	5%	1/16W
R419	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R420	1-216-819-11	METAL CHIP	680	5%	1/16W
R421	1-216-837-11	METAL CHIP	22K	5%	1/16W
R422	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R423	1-216-841-11	METAL CHIP	47K	5%	1/16W
R424	1-216-811-11	METAL CHIP	150	5%	1/16W
R425	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R426	1-216-821-11	METAL CHIP	1K	5%	1/16W
R427	1-216-837-11	METAL CHIP	22K	5%	1/16W
R428	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R429	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R430	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R431	1-216-841-11	METAL CHIP	47K	5%	1/16W
R432	1-216-841-11	METAL CHIP	47K	5%	1/16W
R433	1-216-033-00	METAL CHIP	220	5%	1/10W
R434	1-216-033-00	METAL CHIP	220	5%	1/10W
R435	1-216-809-11	METAL CHIP	100	5%	1/16W
R436	1-216-809-11	METAL CHIP	100	5%	1/16W
R437	1-216-845-11	METAL CHIP	100K	5%	1/16W
R438	1-216-845-11	METAL CHIP	100K	5%	1/16W
R439	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R440	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R442	1-216-811-11	METAL CHIP	150	5%	1/10W
R443	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R444	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R445	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R448	1-216-833-11	METAL CHIP	10K	5%	1/16W
R450	1-216-853-11	METAL CHIP	470K	5%	1/16W
R451	1-215-857-11	METAL OXIDE	10	5%	1W F
R453	1-220-397-11	RES-CHIP	4.7M	5%	1/16W
R458	1-205-991-11	METAL	0.1X2	10%	5W
R800	1-216-857-11	METAL CHIP	1M	5%	1/16W
R801	1-216-821-11	METAL CHIP	1K	5%	1/16W
R802	1-216-833-11	METAL CHIP	10K	5%	1/16W
R803	1-216-841-11	METAL CHIP	47K	5%	1/16W
R804	1-216-841-11	METAL CHIP	47K	5%	1/16W
R805	1-216-839-11	METAL CHIP	33K	5%	1/16W
R806	1-216-833-11	METAL CHIP	10K	5%	1/16W
R807	1-216-833-11	METAL CHIP	10K	5%	1/16W
R808	1-216-833-11	METAL CHIP	10K	5%	1/16W
R809	1-216-833-11	METAL CHIP	10K	5%	1/16W
R810	1-216-857-11	METAL CHIP	1M	5%	1/16W
R811	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R820	1-216-833-11	METAL CHIP	10K	5%	1/16W
R821	1-216-833-11	METAL CHIP	10K	5%	1/16W
R822	1-216-833-11	METAL CHIP	10K	5%	1/16W
R823	1-216-833-11	METAL CHIP	10K	5%	1/16W
R824	1-216-841-11	METAL CHIP	47K	5%	1/16W
R825	1-216-833-11	METAL CHIP	10K	5%	1/16W
R826	1-216-833-11	METAL CHIP	10K	5%	1/16W
R827	1-216-833-11	METAL CHIP	10K	5%	1/16W
R828	1-216-833-11	METAL CHIP	10K	5%	1/16W
R829	1-216-833-11	METAL CHIP	10K	5%	1/16W
R830	1-216-833-11	METAL CHIP	10K	5%	1/16W
R838	1-216-814-11	METAL CHIP	270	5%	1/16W
R839	1-216-857-11	METAL CHIP	1M	5%	1/16W
R841	1-216-815-11	METAL CHIP	330	5%	1/16W
R843	1-216-815-11	METAL CHIP	330	5%	1/16W
R845	1-216-815-11	METAL CHIP	330	5%	1/16W
R847	1-216-815-11	METAL CHIP	330	5%	1/16W
R850	1-216-833-11	METAL CHIP	10K	5%	1/16W
R851	1-216-847-11	METAL CHIP	150K	5%	1/16W
R852	1-216-847-11	METAL CHIP	150K	5%	1/16W
R853	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R854	1-216-833-11	METAL CHIP	10K	5%	1/16W
R855	1-216-833-11	METAL CHIP	10K	5%	1/16W
R856	1-216-835-11	METAL CHIP	15K	5%	1/16W
R857	1-216-835-11	METAL CHIP	15K	5%	1/16W
R858	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R859	1-216-833-11	METAL CHIP	10K	5%	1/16W
R860	1-216-833-11	METAL CHIP	10K	5%	1/16W
R861	1-216-841-11	METAL CHIP	47K	5%	1/16W
R862	1-216-845-11	METAL CHIP	100K	5%	1/16W
R863	1-216-845-11	METAL CHIP	100K	5%	1/16W
R901	1-216-833-11	METAL CHIP	10K	5%	1/16W
R902	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R903	1-216-836-11	METAL CHIP	18K	5%	1/16W
R904	1-216-836-11	METAL CHIP	18K	5%	1/16W
R905	1-216-849-11	METAL CHIP	220K	5%	1/16W
R906	1-216-210-00	RES-CHIP	3.3K	5%	1/8W
R907	1-216-190-00	RES-CHIP	470	5%	1/8W
R908	1-216-190-00	RES-CHIP	470	5%	1/8W
R909	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R910	1-216-833-11	METAL CHIP	10K	5%	1/16W
R911	1-216-833-11	METAL CHIP	10K	5%	1/16W

MAIN

Ref. No.	Part No.	Description			Remark
R912	1-216-186-00	RES-CHIP	330	5%	1/8W
R913	1-216-817-11	METAL CHIP	470	5%	1/16W
R914	1-216-817-11	METAL CHIP	470	5%	1/16W
R915	1-216-833-11	METAL CHIP	10K	5%	1/16W
R916	1-216-001-00	METAL CHIP	10	5%	1/10W
R917	1-216-817-11	METAL CHIP	470	5%	1/16W
R918	1-216-817-11	METAL CHIP	470	5%	1/16W
R920	1-216-001-00	METAL CHIP	10	5%	1/10W
R921	1-216-001-00	METAL CHIP	10	5%	1/10W
R922	1-216-001-00	METAL CHIP	10	5%	1/10W
R923	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R924	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R925	1-247-816-11	CARBON	240	5%	1/4W
R926	1-247-816-11	CARBON	240	5%	1/4W
R927	1-247-816-11	CARBON	240	5%	1/4W
R928	1-247-816-11	CARBON	240	5%	1/4W
R929	1-216-017-00	RES-CHIP	47	5%	1/10W
R930	1-216-017-00	RES-CHIP	47	5%	1/10W
R931	1-216-821-11	METAL CHIP	1K	5%	1/16W
R932	1-216-821-11	METAL CHIP	1K	5%	1/16W
R933	1-216-821-11	METAL CHIP	1K	5%	1/16W
R934	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< VARIABLE RESISTOR >			
RV104	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV204	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV304	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV404	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV802	1-225-648-12	RES, VAR, CARBON 5KX2 (LOW BOOST (40Hz) (FRONT))			
RV803	1-225-648-12	RES, VAR, CARBON 5KX2 (LEVEL (FRONT))			
RV805	1-225-648-12	RES, VAR, CARBON 5KX2 (LOW BOOST (40Hz) (REAR))			
RV806	1-225-648-12	RES, VAR, CARBON 5KX2 (LEVEL (REAR))			
		< TRANSFORMER >			
T801	1-435-858-11	TRANSFORMER, DC-DC CONVERTER			
		< THERMISTOR (NEGATIVE) >			
THN801	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN804	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN805	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN806	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN807	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
		MISCELLANEOUS			
⚠F901	1-533-743-11	FUSE (BLADE TYPE) (AUTO FUSE) 40A			

Ref. No.	Part No.	Description	Remark
		ACCESSORIES	
	3-239-437-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH)	
	3-367-410-01	SCREW (DIA.5X15), TAPPING (MOUNTING SCREW)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

XM-475GSX

SONY

US Model
Canadian Model

SERVICE MANUAL

Ver 1.2 2002. 07

SUPPLEMENT-1

File this supplement with the service manual.

Subject : Change of Main Board

(ENG-02009)

The main board has been changed for those sets that have their serial numbers of 3515501 and later. Check the serial number when servicing and inspecting.

• **Semiconductor Location (MAIN SECTION)**

Ref. No.	Location	Ref. No.	Location
D801	F-8	Q204	E-10
D802	F-8	Q207	D-11
D805	F-11	Q208	E-11
D812	F-9	Q209	D-12
D813	F-9	Q210	E-12
D822	G-13	Q211	D-12
D823	G-13	Q212	D-13
D824	F-13	Q301	G-5
D825	D-13	Q302	G-4
D826	D-2	Q303	D-5
D827	G-2	Q304	E-5
D828	H-12	Q307	D-4
D829	H-12	Q308	E-4
D901	G-10	Q309	D-3
D902	G-10	Q310	E-3
D903	E-7	Q311	D-3
D904	E-7	Q312	D-2
D905	D-8	Q401	H-6
D906	D-8	Q402	G-4
D907	B-10	Q403	F-5
D908	B-10	Q404	F-5
D909	B-5	Q407	F-4
D910	B-6	Q408	F-4
D911	D-8	Q409	F-3
D912	D-8	Q410	G-3
D913	E-7	Q411	F-3
D914	E-6	Q412	G-3
D917	D-6	Q801	E-9
D918	D-6	Q802	F-9
		Q803	C-13
IC801	G-7	Q804	C-13
IC806	H-8	Q805	C-13
IC807	H-8	Q809	H-11
IC808	G-6	Q810	G-13
IC813	H-5	Q811	G-13
IC814	H-5	Q812	H-13
IC815	F-8	Q813	G-13
IC901	G-11	Q901	F-10
IC902	F-10	Q902	G-10
		Q903	G-10
Q101	H-9	Q904	B-9
Q102	E-9	Q905	B-8
Q103	F-11	Q906	B-7
Q104	F-10	Q907	B-6
Q107	E-11	Q908	B-8
Q108	F-11	Q909	B-7
Q109	F-12	Q910	F-7
Q110	G-12	Q911	F-6
Q111	F-12		
Q112	F-13	R141	F-13
Q201	G-8	R241	D-13
Q202	E-8	R341	D-2
Q203	E-11	R441	F-2

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- : nonflammable resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

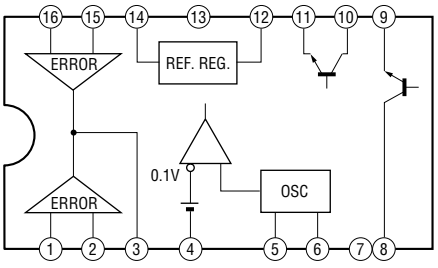
- : B+ Line.
- : B– Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from +12V and REM terminals.
- Voltage is dc with respect to ground under no-signal condition.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : AUDIO

for printed wiring boards:
Note:

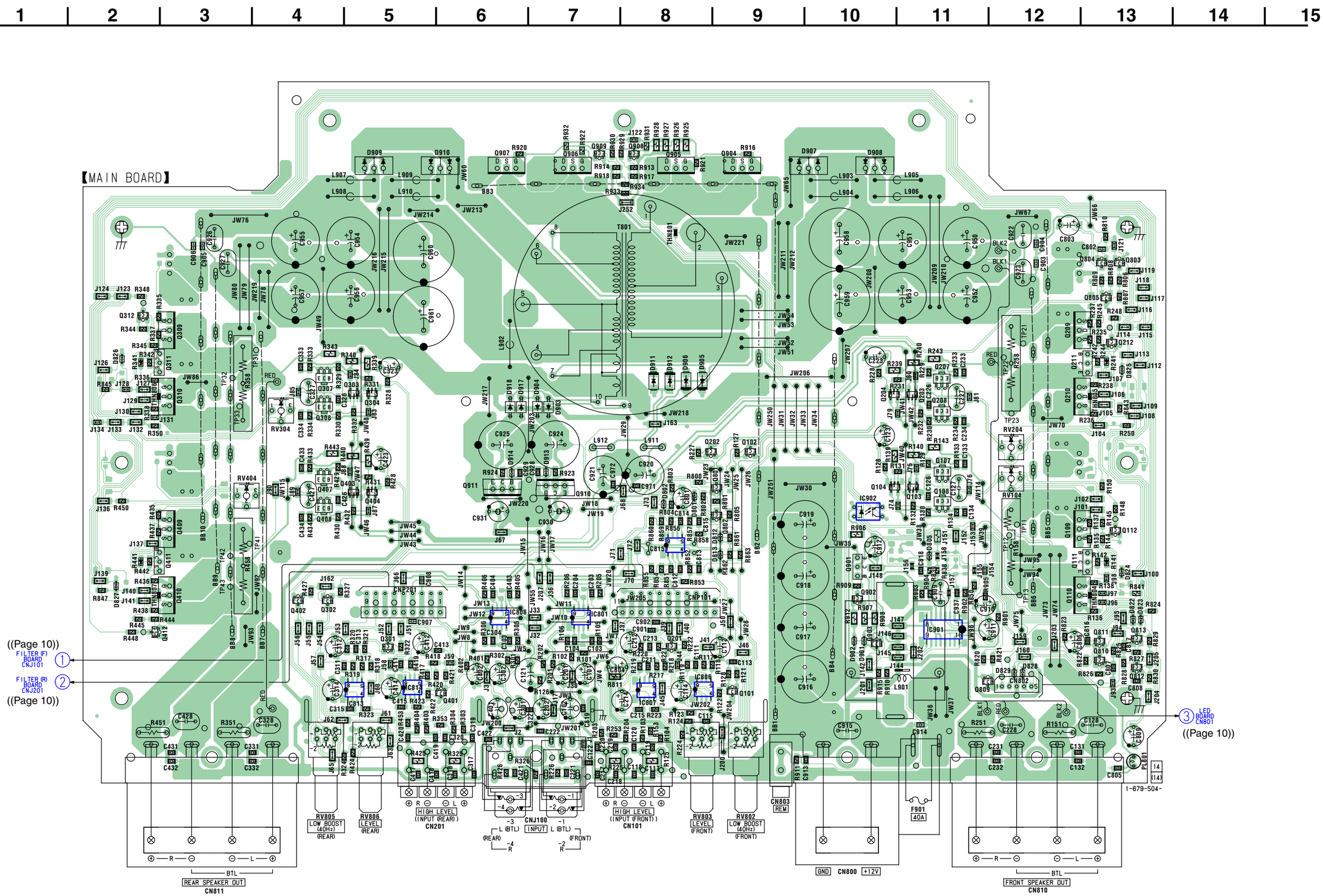
- : parts extracted from the component side.
- : Pattern from the side which enables seeing.
- ( ) : Refer to page of Supplement-1.
- (( )) : Refer to page of Service manual.

• IC Block Diagram

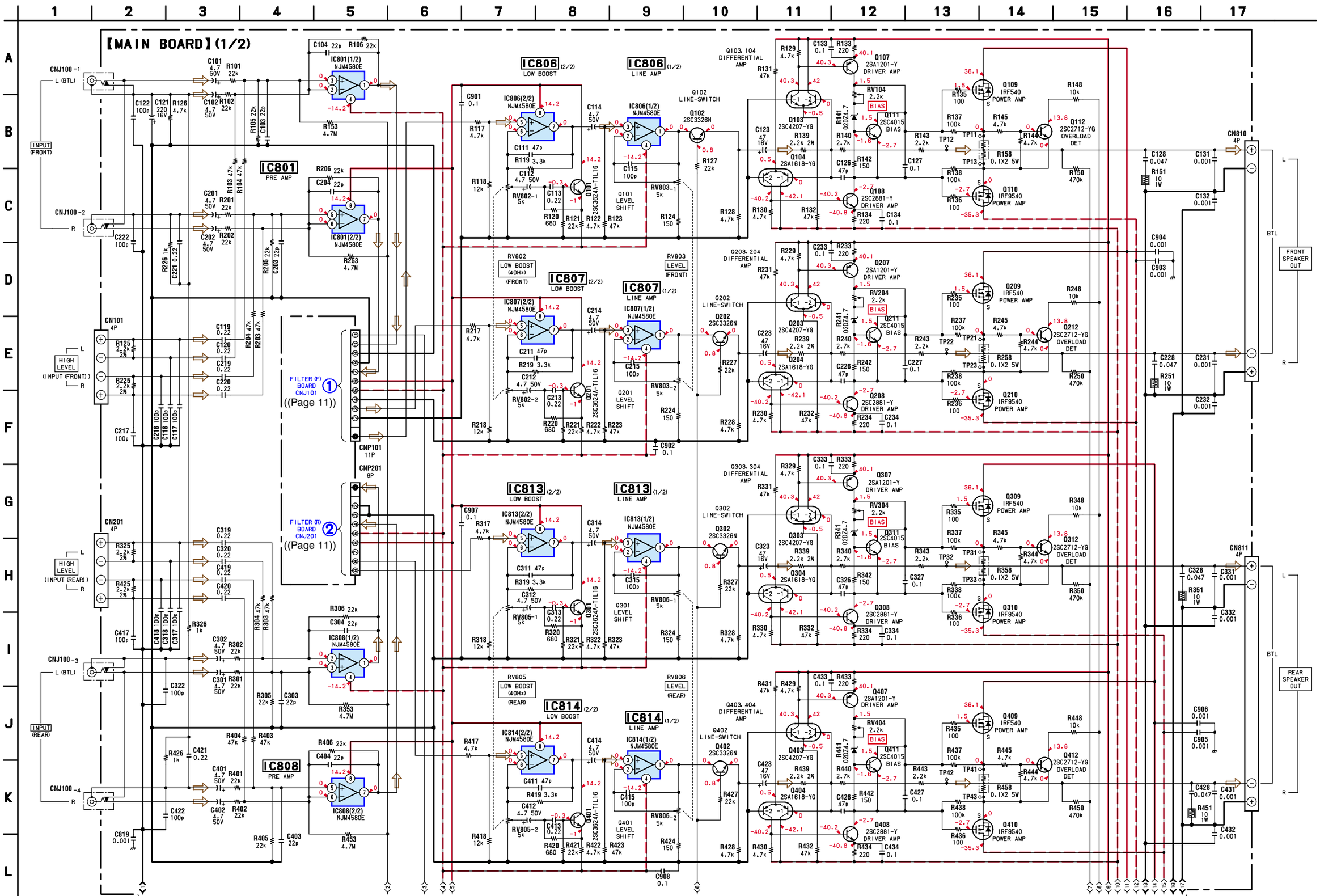
IC901 µPC494GS-T1



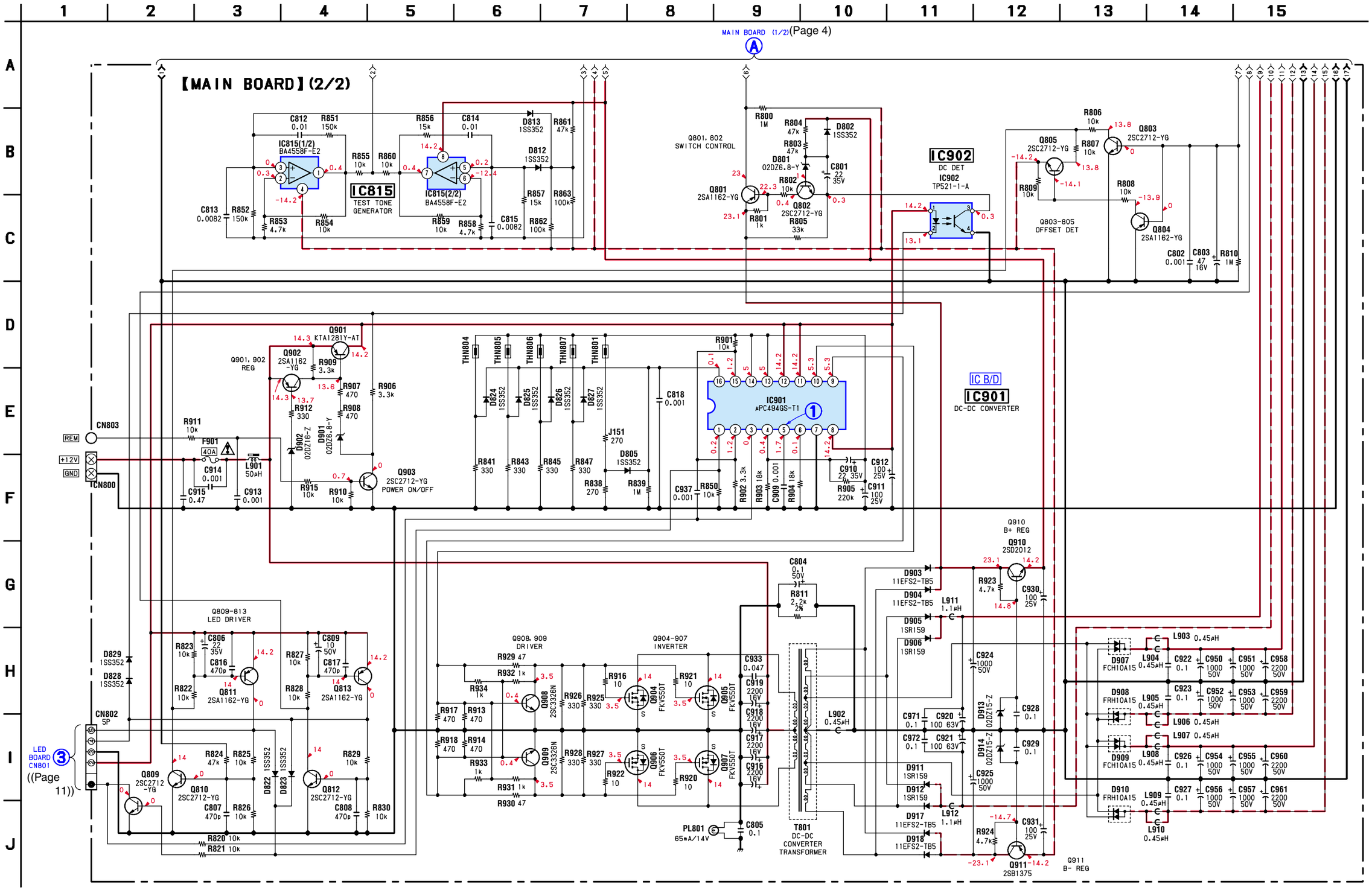
1. PRINTED WIRING BOARD — MAIN SECTION — • Refer to page 2 for Semiconductor Location and Common Note on Printed Wiring Boards.



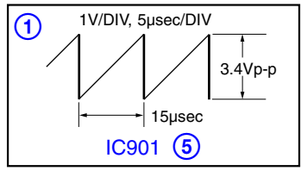
2. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) — • Refer to page 2 for Common Note on Schematic Diagrams.



3. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 2 for IC Block Diagram and Common Note on Schematic Diagrams.



• Waveform



4. ELECTRICAL PARTS LIST

MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-3274-527-A	MAIN BOARD, COMPLETE			
		**********			
	3-225-066-11	HEAT SINK (SUB 1)			
*	3-225-067-02	HEAT SINK (SUB 2)			
*	3-225-072-02	BRACKET (4CH.VR1)			
*	3-225-073-02	BRACKET (4CH.VR2)			
*	3-225-080-01	HEAT SINK (RETAINER PLATE)			
	3-225-183-01	SCREW (+PSW.TT.3XL)			
	3-225-183-11	SCREW (+PSW.TT.3XL)			
	3-225-184-01	SCREW (+PS.TT.3X6)			
	3-238-413-01	SHEET (TR), INSULATING			
	7-685-646-79	SCREW +P 3X8 TYPE2 NON-SLIT			
		< CAPACITOR >			
C101	1-126-794-11	ELECT	4.7uF	20%	50V
C102	1-126-794-11	ELECT	4.7uF	20%	50V
C103	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C104	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C111	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C112	1-126-794-11	ELECT	4.7uF	20%	50V
C113	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C114	1-126-794-11	ELECT	4.7uF	20%	50V
C115	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C117	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C118	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C119	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C120	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C121	1-128-499-11	ELECT	220uF	20%	16V
C122	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C123	1-126-786-11	ELECT	47uF	20%	16V
C126	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C127	1-136-165-00	FILM	0.1uF	5%	50V
C128	1-136-161-00	FILM	0.047uF	5%	50V
C131	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C132	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C133	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C134	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C201	1-126-794-11	ELECT	4.7uF	20%	50V
C202	1-126-794-11	ELECT	4.7uF	20%	50V
C203	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C204	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C211	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C212	1-126-794-11	ELECT	4.7uF	20%	50V
C213	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C214	1-126-794-11	ELECT	4.7uF	20%	50V
C215	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C217	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C218	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C219	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C220	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C221	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C222	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C223	1-126-786-11	ELECT	47uF	20%	16V
C226	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C227	1-136-165-00	FILM	0.1uF	5%	50V
C228	1-136-161-00	FILM	0.047uF	5%	50V
C231	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C232	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C233	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C234	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C301	1-126-794-11	ELECT	4.7uF	20%	50V
C302	1-126-794-11	ELECT	4.7uF	20%	50V
C303	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C304	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C311	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C312	1-126-794-11	ELECT	4.7uF	20%	50V
C313	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C314	1-126-794-11	ELECT	4.7uF	20%	50V
C315	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C317	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C318	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C319	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C320	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C322	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C323	1-126-786-11	ELECT	47uF	20%	16V
C326	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C327	1-136-165-00	FILM	0.1uF	5%	50V
C328	1-136-161-00	FILM	0.047uF	5%	50V
C331	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C332	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C333	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C334	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C401	1-126-794-11	ELECT	4.7uF	20%	50V
C402	1-126-794-11	ELECT	4.7uF	20%	50V
C403	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C404	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C411	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C412	1-126-794-11	ELECT	4.7uF	20%	50V
C413	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C414	1-126-794-11	ELECT	4.7uF	20%	50V
C415	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C417	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C418	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C419	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C420	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C421	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C422	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C423	1-126-786-11	ELECT	47uF	20%	16V
C426	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C427	1-136-165-00	FILM	0.1uF	5%	50V
C428	1-136-161-00	FILM	0.047uF	5%	50V
C431	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C432	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C433	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C434	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C801	1-126-796-11	ELECT	22uF	20%	35V
C802	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C803	1-126-786-11	ELECT	47uF	20%	16V
C804	1-115-867-11	ELECT	0.1uF	20%	50V
C805	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C806	1-126-796-11	ELECT	22uF	20%	35V
C807	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C808	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C809	1-126-964-11	ELECT	10uF	20%	50V
C812	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C813	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C814	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C815	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C816	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C817	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C818	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C819	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C901	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C902	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C903	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C904	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C905	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C906	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C907	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C908	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C909	1-130-471-00	MYLAR	0.001uF	5%	50V
C910	1-126-796-11	ELECT	22uF	20%	35V
C911	1-104-665-11	ELECT	100uF	20%	25V
C912	1-104-665-11	ELECT	100uF	20%	25V
C913	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C914	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C915	1-137-194-81	FILM	0.47uF	5%	50V
C916	1-131-731-11	ELECT	2200uF	20%	16V
C917	1-131-731-11	ELECT	2200uF	20%	16V
C918	1-131-731-11	ELECT	2200uF	20%	16V
C919	1-131-731-11	ELECT	2200uF	20%	16V
C920	1-128-576-11	ELECT	100uF	20%	63V
C921	1-128-576-11	ELECT	100uF	20%	63V
C922	1-136-165-00	FILM	0.1uF	5%	50V
C923	1-136-165-00	FILM	0.1uF	5%	50V
C924	1-126-972-11	ELECT	1000uF	20%	50V
C925	1-126-972-11	ELECT	1000uF	20%	50V
C926	1-136-165-00	FILM	0.1uF	5%	50V
C927	1-136-165-00	FILM	0.1uF	5%	50V
C928	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C929	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C930	1-104-665-11	ELECT	100uF	20%	25V
C931	1-104-665-11	ELECT	100uF	20%	25V
C933	1-136-161-00	FILM	0.047uF	5%	50V
C937	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C950	1-126-972-11	ELECT	1000uF	20%	50V
C951	1-126-972-11	ELECT	1000uF	20%	50V
C952	1-126-972-11	ELECT	1000uF	20%	50V
C953	1-126-972-11	ELECT	1000uF	20%	50V
C954	1-126-972-11	ELECT	1000uF	20%	50V
C955	1-126-972-11	ELECT	1000uF	20%	50V
C956	1-126-972-11	ELECT	1000uF	20%	50V
C957	1-126-972-11	ELECT	1000uF	20%	50V
C958	1-100-199-31	ELECT	2200uF	20%	50V
C959	1-100-199-31	ELECT	2200uF	20%	50V
C960	1-100-199-31	ELECT	2200uF	20%	50V
C961	1-100-199-31	ELECT	2200uF	20%	50V
C971	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C972	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
		< CONNECTOR >			
CN101	1-794-219-11	CONNECTOR 4P (HIGH LEVEL (INPUT (FRONT)))			
CN201	1-794-219-11	CONNECTOR 4P (HIGH LEVEL (INPUT (REAR)))			
* CN802	1-568-954-11	PIN, CONNECTOR 5P			
CN803	1-815-300-11	CONNECTOR 1P (REM)			
CNP101	1-815-680-11	PIN, CONNECTOR (PWB) 11P			
CNP201	1-784-917-11	PIN, CONNECTOR (PWB) 9P			
		< TERMINAL BOARD >			
CN800	1-694-755-11	TERMINAL BOARD (2P+FUSE) (+12V,GND)			
CN810	1-694-756-11	TERMINAL BOARD (4P) (FRONT SPEAKER OUT)			
CN811	1-694-756-11	TERMINAL BOARD (4P) (REAR SPEAKER OUT)			
		< JACK >			
CNJ100	1-779-078-41	JACK, PIN 4P (INPUT (FRONT/REAR))			
		< DIODE >			
D801	8-719-065-18	DIODE 02DZ6.8-Y(TPH3)			
D802	8-719-016-74	DIODE 1SS352			
D805	8-719-016-74	DIODE 1SS352			
D812	8-719-016-74	DIODE 1SS352			
D813	8-719-016-74	DIODE 1SS352			
D822	8-719-016-74	DIODE 1SS352			
D823	8-719-016-74	DIODE 1SS352			
D824	8-719-016-74	DIODE 1SS352			
D825	8-719-016-74	DIODE 1SS352			
D826	8-719-016-74	DIODE 1SS352			
D827	8-719-016-74	DIODE 1SS352			
D828	8-719-016-74	DIODE 1SS352			
D829	8-719-016-74	DIODE 1SS352			
D901	8-719-065-18	DIODE 02DZ6.8-Y(TPH3)			
D902	8-719-065-46	DIODE 02DZ16-Z(TPH3)			
D903	8-719-987-67	DIODE 11EFS2			

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Ref. No.	Part No.	Description	Remark
D904	8-719-987-67	DIODE 11EFS2	
D905	8-719-079-92	DIODE 1SR159-200TE-25	
D906	8-719-079-92	DIODE 1SR159-200TE-25	
D907	8-719-079-00	DIODE FCH10A15	
D908	8-719-079-01	DIODE FRH10A15	
D909	8-719-079-00	DIODE FCH10A15	
D910	8-719-079-01	DIODE FRH10A15	
D911	8-719-079-92	DIODE 1SR159-200TE-25	
D912	8-719-079-92	DIODE 1SR159-200TE-25	
D913	8-719-065-43	DIODE 02DZ15-Z(TPH3)	
D914	8-719-065-43	DIODE 02DZ15-Z(TPH3)	
D917	8-719-987-67	DIODE 11EFS2	
D918	8-719-987-67	DIODE 11EFS2	
		< FUSE >	
⚠F901	1-533-743-11	FUSE (BLADE TYPE) (AUTO FUSE) (40A)	
		< IC >	
IC801	8-759-385-17	IC NJM4580E(TE2)	
IC806	8-759-385-17	IC NJM4580E(TE2)	
IC807	8-759-385-17	IC NJM4580E(TE2)	
IC808	8-759-385-17	IC NJM4580E(TE2)	
IC813	8-759-385-17	IC NJM4580E(TE2)	
IC814	8-759-385-17	IC NJM4580E(TE2)	
IC815	8-759-909-71	IC BA4558F	
IC901	8-759-144-88	IC uPC494GS	
		< PHOTO TRANSISTOR >	
IC902	8-719-800-42	PHOTO TRANSISTOR TP521-1-A	
		< JUMPER RESISTOR >	
J1	1-216-295-11	SHORT CHIP 0	
J2	1-216-296-11	SHORT CHIP 0	
J3	1-216-296-11	SHORT CHIP 0	
J17	1-216-296-11	SHORT CHIP 0	
J32	1-216-296-11	SHORT CHIP 0	
J33	1-216-296-11	SHORT CHIP 0	
J36	1-216-296-11	SHORT CHIP 0	
J37	1-216-296-11	SHORT CHIP 0	
J38	1-216-296-11	SHORT CHIP 0	
J39	1-216-296-11	SHORT CHIP 0	
J40	1-216-296-11	SHORT CHIP 0	
J41	1-216-296-11	SHORT CHIP 0	
J44	1-216-295-11	SHORT CHIP 0	
J45	1-216-296-11	SHORT CHIP 0	
J46	1-216-296-11	SHORT CHIP 0	
J50	1-216-296-11	SHORT CHIP 0	
J51	1-216-296-11	SHORT CHIP 0	
J52	1-216-296-11	SHORT CHIP 0	
J53	1-216-296-11	SHORT CHIP 0	
J54	1-216-296-11	SHORT CHIP 0	
J55	1-216-296-11	SHORT CHIP 0	
J56	1-216-296-11	SHORT CHIP 0	
J57	1-216-296-11	SHORT CHIP 0	
J58	1-216-295-11	SHORT CHIP 0	
J59	1-216-295-11	SHORT CHIP 0	
J60	1-216-296-11	SHORT CHIP 0	
J61	1-216-296-11	SHORT CHIP 0	
J62	1-216-296-11	SHORT CHIP 0	
J63	1-216-296-11	SHORT CHIP 0	
J65	1-216-296-11	SHORT CHIP 0	
J66	1-216-296-11	SHORT CHIP 0	
J67	1-216-296-11	SHORT CHIP 0	
J68	1-216-296-11	SHORT CHIP 0	
J70	1-216-296-11	SHORT CHIP 0	
J71	1-216-296-11	SHORT CHIP 0	
J72	1-216-296-11	SHORT CHIP 0	
J73	1-216-296-11	SHORT CHIP 0	
J74	1-216-295-11	SHORT CHIP 0	
J75	1-216-295-11	SHORT CHIP 0	
J76	1-216-295-11	SHORT CHIP 0	
J79	1-216-295-11	SHORT CHIP 0	
J80	1-216-295-11	SHORT CHIP 0	
J81	1-216-295-11	SHORT CHIP 0	
J83	1-216-295-11	SHORT CHIP 0	
J84	1-216-295-11	SHORT CHIP 0	
J85	1-216-295-11	SHORT CHIP 0	
J87	1-216-295-11	SHORT CHIP 0	
J88	1-216-295-11	SHORT CHIP 0	
J89	1-216-295-11	SHORT CHIP 0	
J90	1-216-296-11	SHORT CHIP 0	
J93	1-216-295-11	SHORT CHIP 0	
J94	1-216-296-11	SHORT CHIP 0	
J95	1-216-296-11	SHORT CHIP 0	
J96	1-216-295-11	SHORT CHIP 0	
J97	1-216-295-11	SHORT CHIP 0	
J98	1-216-295-11	SHORT CHIP 0	
J100	1-216-296-11	SHORT CHIP 0	
J101	1-216-296-11	SHORT CHIP 0	
J102	1-216-296-11	SHORT CHIP 0	
J104	1-216-296-11	SHORT CHIP 0	
J105	1-216-296-11	SHORT CHIP 0	
J106	1-216-296-11	SHORT CHIP 0	
J107	1-216-296-11	SHORT CHIP 0	
J108	1-216-296-11	SHORT CHIP 0	
J109	1-216-296-11	SHORT CHIP 0	
J112	1-216-296-11	SHORT CHIP 0	
J113	1-216-296-11	SHORT CHIP 0	
J114	1-216-296-11	SHORT CHIP 0	
J115	1-216-296-11	SHORT CHIP 0	
J116	1-216-296-11	SHORT CHIP 0	
J117	1-216-296-11	SHORT CHIP 0	
J118	1-216-296-11	SHORT CHIP 0	
J119	1-216-296-11	SHORT CHIP 0	
J121	1-216-295-11	SHORT CHIP 0	
J122	1-216-295-11	SHORT CHIP 0	
J123	1-216-296-11	SHORT CHIP 0	
J124	1-216-296-11	SHORT CHIP 0	
J126	1-216-296-11	SHORT CHIP 0	
J127	1-216-296-11	SHORT CHIP 0	
J128	1-216-295-11	SHORT CHIP 0	
J129	1-216-296-11	SHORT CHIP 0	
J130	1-216-296-11	SHORT CHIP 0	
J131	1-216-295-11	SHORT CHIP 0	
J132	1-216-296-11	SHORT CHIP 0	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

MAIN

Ref. No.	Part No.	Description			Remark
J133	1-216-296-11	SHORT CHIP	0		
J134	1-216-295-11	SHORT CHIP	0		
J136	1-216-296-11	SHORT CHIP	0		
J137	1-216-296-11	SHORT CHIP	0		
J139	1-216-296-11	SHORT CHIP	0		
J140	1-216-296-11	SHORT CHIP	0		
J141	1-216-296-11	SHORT CHIP	0		
J142	1-216-296-11	SHORT CHIP	0		
J144	1-216-296-11	SHORT CHIP	0		
J145	1-216-296-11	SHORT CHIP	0		
J146	1-216-296-11	SHORT CHIP	0		
J147	1-216-296-11	SHORT CHIP	0		
J148	1-216-296-11	SHORT CHIP	0		
J151	1-216-184-00	RES-CHIP	270	5%	1/8W
J152	1-216-296-11	SHORT CHIP	0		
J153	1-216-295-11	SHORT CHIP	0		
J154	1-216-295-11	SHORT CHIP	0		
J155	1-216-864-11	METAL CHIP	0	5%	1/10W
J156	1-216-864-11	METAL CHIP	0	5%	1/10W
J157	1-216-864-11	METAL CHIP	0	5%	1/10W
J158	1-216-864-11	METAL CHIP	0	5%	1/10W
J159	1-216-296-11	SHORT CHIP	0		
J160	1-216-296-11	SHORT CHIP	0		
J162	1-216-296-11	SHORT CHIP	0		
J163	1-216-296-11	SHORT CHIP	0		
J200	1-216-296-11	SHORT CHIP	0		
J201	1-216-296-11	SHORT CHIP	0		
J202	1-216-296-11	SHORT CHIP	0		
J203	1-216-296-11	SHORT CHIP	0		
J204	1-216-296-11	SHORT CHIP	0		
J205	1-216-296-11	SHORT CHIP	0		
J207	1-216-296-11	SHORT CHIP	0		
J251	1-216-295-11	SHORT CHIP	0		
J252	1-216-296-11	SHORT CHIP	0		
		< COIL >			
L901	1-419-851-21	COIL, CHOKE	50uH		
L902	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L903	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L904	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L905	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L906	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L907	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L908	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L909	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L910	1-410-396-41	INDUCTOR, FERRITE BEAD	0.45uH		
L911	1-410-397-21	INDUCTOR, FERRITE BEAD	1.1uH		
L912	1-410-397-21	INDUCTOR, FERRITE BEAD	1.1uH		
		< PILOT LAMP >			
PL801	1-517-156-11	LAMP, PILOT (65mA/14V)			
		< TRANSISTOR >			
Q101	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q102	8-729-202-38	TRANSISTOR	2SC3326N-A		
Q103	8-729-014-87	TRANSISTOR	2SC4207-YGR-TE85R		
Q104	8-729-014-85	TRANSISTOR	2SA1618-YGR-TE85R		
Q107	8-729-046-32	TRANSISTOR	2SA1201-Y(TE12L.C)		
Q108	8-729-051-72	TRANSISTOR	2SC2881-Y(TE12L.C)		
Q109	8-729-924-78	FET	IRF540		
Q110	8-729-053-85	FET	IRF9540		
Q111	8-729-041-66	TRANSISTOR	2SC4015-TV2		
Q112	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q201	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q202	8-729-202-38	TRANSISTOR	2SC3326N-A		
Q203	8-729-014-87	TRANSISTOR	2SC4207-YGR-TE85R		
Q204	8-729-014-85	TRANSISTOR	2SA1618-YGR-TE85R		
Q207	8-729-046-32	TRANSISTOR	2SA1201-Y(TE12L.C)		
Q208	8-729-051-72	TRANSISTOR	2SC2881-Y(TE12L.C)		
Q209	8-729-924-78	FET	IRF540		
Q210	8-729-053-85	FET	IRF9540		
Q211	8-729-041-66	TRANSISTOR	2SC4015-TV2		
Q212	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q301	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q302	8-729-202-38	TRANSISTOR	2SC3326N-A		
Q303	8-729-014-87	TRANSISTOR	2SC4207-YGR-TE85R		
Q304	8-729-014-85	TRANSISTOR	2SA1618-YGR-TE85R		
Q307	8-729-046-32	TRANSISTOR	2SA1201-Y(TE12L.C)		
Q308	8-729-051-72	TRANSISTOR	2SC2881-Y(TE12L.C)		
Q309	8-729-924-78	FET	IRF540		
Q310	8-729-053-85	FET	IRF9540		
Q311	8-729-041-66	TRANSISTOR	2SC4015-TV2		
Q312	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q401	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q402	8-729-202-38	TRANSISTOR	2SC3326N-A		
Q403	8-729-014-87	TRANSISTOR	2SC4207-YGR-TE85R		
Q404	8-729-014-85	TRANSISTOR	2SA1618-YGR-TE85R		
Q407	8-729-046-32	TRANSISTOR	2SA1201-Y(TE12L.C)		
Q408	8-729-051-72	TRANSISTOR	2SC2881-Y(TE12L.C)		
Q409	8-729-924-78	FET	IRF540		
Q410	8-729-053-85	FET	IRF9540		
Q411	8-729-041-66	TRANSISTOR	2SC4015-TV2		
Q412	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q801	8-729-216-22	TRANSISTOR	2SA1162-G		
Q802	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q803	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q804	8-729-216-22	TRANSISTOR	2SA1162-G		
Q805	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q809	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q810	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q811	8-729-216-22	TRANSISTOR	2SA1162-G		
Q812	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q813	8-729-216-22	TRANSISTOR	2SA1162-G		
Q901	8-729-052-82	TRANSISTOR	KTA1281Y-AT		
Q902	8-729-216-22	TRANSISTOR	2SA1162-G		
Q903	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q904	8-729-053-05	FET	FKV550T		
Q905	8-729-053-05	FET	FKV550T		
Q906	8-729-053-05	FET	FKV550T		
Q907	8-729-053-05	FET	FKV550T		
Q908	8-729-202-38	TRANSISTOR	2SC3326N-A		
Q909	8-729-202-38	TRANSISTOR	2SC3326N-A		
Q910	8-729-209-15	TRANSISTOR	2SD2012		
Q911	8-729-209-60	TRANSISTOR	2SB1375		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-837-11	METAL CHIP	22K	5%	1/10W
R102	1-216-837-11	METAL CHIP	22K	5%	1/10W
R103	1-216-841-11	METAL CHIP	47K	5%	1/10W
R104	1-216-841-11	METAL CHIP	47K	5%	1/10W
R105	1-216-837-11	METAL CHIP	22K	5%	1/10W
R106	1-216-837-11	METAL CHIP	22K	5%	1/10W
R117	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R118	1-216-834-11	METAL CHIP	12K	5%	1/10W
R119	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R120	1-216-819-11	METAL CHIP	680	5%	1/10W
R121	1-216-837-11	METAL CHIP	22K	5%	1/10W
R122	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R123	1-216-841-11	METAL CHIP	47K	5%	1/10W
R124	1-216-811-11	METAL CHIP	150	5%	1/10W
R125	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R126	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R127	1-216-837-11	METAL CHIP	22K	5%	1/10W
R128	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R129	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R130	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R131	1-216-841-11	METAL CHIP	47K	5%	1/10W
R132	1-216-841-11	METAL CHIP	47K	5%	1/10W
R133	1-216-033-00	METAL CHIP	220	5%	1/10W
R134	1-216-033-00	METAL CHIP	220	5%	1/10W
R135	1-216-809-11	METAL CHIP	100	5%	1/10W
R136	1-216-809-11	METAL CHIP	100	5%	1/10W
R137	1-216-845-11	METAL CHIP	100K	5%	1/10W
R138	1-216-845-11	METAL CHIP	100K	5%	1/10W
R139	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R140	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R141	8-719-017-03	DIODE 02DZ4.7-TPH3			
R142	1-216-811-11	METAL CHIP	150	5%	1/10W
R143	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R144	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R145	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R148	1-216-833-11	METAL CHIP	10K	5%	1/10W
R150	1-216-853-11	METAL CHIP	470K	5%	1/10W
R151	1-215-857-11	METAL OXIDE	10	5%	1W F
R153	1-220-397-11	RES-CHIP	4.7M	5%	1/10W
R158	1-205-991-11	METAL	0.1X2	10%	5W
R201	1-216-837-11	METAL CHIP	22K	5%	1/10W
R202	1-216-837-11	METAL CHIP	22K	5%	1/10W
R203	1-216-841-11	METAL CHIP	47K	5%	1/10W
R204	1-216-841-11	METAL CHIP	47K	5%	1/10W
R205	1-216-837-11	METAL CHIP	22K	5%	1/10W
R206	1-216-837-11	METAL CHIP	22K	5%	1/10W
R217	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R218	1-216-834-11	METAL CHIP	12K	5%	1/10W
R219	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R220	1-216-819-11	METAL CHIP	680	5%	1/10W
R221	1-216-837-11	METAL CHIP	22K	5%	1/10W
R222	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R223	1-216-841-11	METAL CHIP	47K	5%	1/10W
R224	1-216-811-11	METAL CHIP	150	5%	1/10W
R225	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R226	1-216-821-11	METAL CHIP	1K	5%	1/10W
R227	1-216-837-11	METAL CHIP	22K	5%	1/10W
R228	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R229	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R230	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R231	1-216-841-11	METAL CHIP	47K	5%	1/10W
R232	1-216-841-11	METAL CHIP	47K	5%	1/10W
R233	1-216-033-00	METAL CHIP	220	5%	1/10W
R234	1-216-033-00	METAL CHIP	220	5%	1/10W
R235	1-216-809-11	METAL CHIP	100	5%	1/10W
R236	1-216-809-11	METAL CHIP	100	5%	1/10W
R237	1-216-845-11	METAL CHIP	100K	5%	1/10W
R238	1-216-845-11	METAL CHIP	100K	5%	1/10W
R239	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R240	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R241	8-719-017-03	DIODE 02DZ4.7-TPH3			
R242	1-216-811-11	METAL CHIP	150	5%	1/10W
R243	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R244	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R245	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R248	1-216-833-11	METAL CHIP	10K	5%	1/10W
R250	1-216-853-11	METAL CHIP	470K	5%	1/10W
R251	1-215-857-11	METAL OXIDE	10	5%	1W F
R253	1-220-397-11	RES-CHIP	4.7M	5%	1/10W
R258	1-205-991-11	METAL	0.1X2	10%	5W
R301	1-216-837-11	METAL CHIP	22K	5%	1/10W
R302	1-216-837-11	METAL CHIP	22K	5%	1/10W
R303	1-216-841-11	METAL CHIP	47K	5%	1/10W
R304	1-216-841-11	METAL CHIP	47K	5%	1/10W
R305	1-216-837-11	METAL CHIP	22K	5%	1/10W
R306	1-216-837-11	METAL CHIP	22K	5%	1/10W
R317	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R318	1-216-834-11	METAL CHIP	12K	5%	1/10W
R319	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R320	1-216-819-11	METAL CHIP	680	5%	1/10W
R321	1-216-837-11	METAL CHIP	22K	5%	1/10W
R322	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R323	1-216-841-11	METAL CHIP	47K	5%	1/10W
R324	1-216-811-11	METAL CHIP	150	5%	1/10W
R325	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R326	1-216-821-11	METAL CHIP	1K	5%	1/10W
R327	1-216-837-11	METAL CHIP	22K	5%	1/10W
R328	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R329	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R330	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R331	1-216-841-11	METAL CHIP	47K	5%	1/10W
R332	1-216-841-11	METAL CHIP	47K	5%	1/10W
R333	1-216-033-00	METAL CHIP	220	5%	1/10W
R334	1-216-033-00	METAL CHIP	220	5%	1/10W
R335	1-216-809-11	METAL CHIP	100	5%	1/10W
R336	1-216-809-11	METAL CHIP	100	5%	1/10W
R337	1-216-845-11	METAL CHIP	100K	5%	1/10W
R338	1-216-845-11	METAL CHIP	100K	5%	1/10W
R339	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R340	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R341	8-719-017-03	DIODE 02DZ4.7-TPH3			
R342	1-216-811-11	METAL CHIP	150	5%	1/10W
R343	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R344	1-216-829-11	METAL CHIP	4.7K	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R345	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R348	1-216-833-11	METAL CHIP	10K	5%	1/10W
R350	1-216-853-11	METAL CHIP	470K	5%	1/10W
R351	1-215-857-11	METAL OXIDE	10	5%	1W F
R353	1-220-397-11	RES-CHIP	4.7M	5%	1/10W
R358	1-205-991-11	METAL	0.1X2	10%	5W
R401	1-216-837-11	METAL CHIP	22K	5%	1/10W
R402	1-216-837-11	METAL CHIP	22K	5%	1/10W
R403	1-216-841-11	METAL CHIP	47K	5%	1/10W
R404	1-216-841-11	METAL CHIP	47K	5%	1/10W
R405	1-216-837-11	METAL CHIP	22K	5%	1/10W
R406	1-216-837-11	METAL CHIP	22K	5%	1/10W
R417	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R418	1-216-834-11	METAL CHIP	12K	5%	1/10W
R419	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R420	1-216-819-11	METAL CHIP	680	5%	1/10W
R421	1-216-837-11	METAL CHIP	22K	5%	1/10W
R422	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R423	1-216-841-11	METAL CHIP	47K	5%	1/10W
R424	1-216-811-11	METAL CHIP	150	5%	1/10W
R425	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R426	1-216-821-11	METAL CHIP	1K	5%	1/10W
R427	1-216-837-11	METAL CHIP	22K	5%	1/10W
R428	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R429	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R430	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R431	1-216-841-11	METAL CHIP	47K	5%	1/10W
R432	1-216-841-11	METAL CHIP	47K	5%	1/10W
R433	1-216-033-00	METAL CHIP	220	5%	1/10W
R434	1-216-033-00	METAL CHIP	220	5%	1/10W
R435	1-216-809-11	METAL CHIP	100	5%	1/10W
R436	1-216-809-11	METAL CHIP	100	5%	1/10W
R437	1-216-845-11	METAL CHIP	100K	5%	1/10W
R438	1-216-845-11	METAL CHIP	100K	5%	1/10W
R439	1-208-494-61	RES-CHIP	2.2K	2%	1/8W
R440	1-216-208-00	RES-CHIP	2.7K	5%	1/8W
R441	8-719-017-03	DIODE 02DZ4.7-TPH3			
R442	1-216-811-11	METAL CHIP	150	5%	1/10W
R443	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R444	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R445	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R448	1-216-833-11	METAL CHIP	10K	5%	1/10W
R450	1-216-853-11	METAL CHIP	470K	5%	1/10W
R451	1-215-857-11	METAL OXIDE	10	5%	1W F
R453	1-220-397-11	RES-CHIP	4.7M	5%	1/10W
R458	1-205-991-11	METAL	0.1X2	10%	5W
R800	1-216-857-11	METAL CHIP	1M	5%	1/10W
R801	1-216-821-11	METAL CHIP	1K	5%	1/10W
R802	1-216-833-11	METAL CHIP	10K	5%	1/10W
R803	1-216-841-11	METAL CHIP	47K	5%	1/10W
R804	1-216-841-11	METAL CHIP	47K	5%	1/10W
R805	1-216-839-11	METAL CHIP	33K	5%	1/10W
R806	1-216-833-11	METAL CHIP	10K	5%	1/10W
R807	1-216-833-11	METAL CHIP	10K	5%	1/10W
R808	1-216-833-11	METAL CHIP	10K	5%	1/10W
R809	1-216-833-11	METAL CHIP	10K	5%	1/10W
R810	1-216-857-11	METAL CHIP	1M	5%	1/10W
R811	1-208-494-61	RES-CHIP	2.2K	2%	1/8W

Ref. No.	Part No.	Description			Remark
R820	1-216-833-11	METAL CHIP	10K	5%	1/10W
R821	1-216-833-11	METAL CHIP	10K	5%	1/10W
R822	1-216-833-11	METAL CHIP	10K	5%	1/10W
R823	1-216-833-11	METAL CHIP	10K	5%	1/10W
R824	1-216-841-11	METAL CHIP	47K	5%	1/10W
R825	1-216-833-11	METAL CHIP	10K	5%	1/10W
R826	1-216-833-11	METAL CHIP	10K	5%	1/10W
R827	1-216-833-11	METAL CHIP	10K	5%	1/10W
R828	1-216-833-11	METAL CHIP	10K	5%	1/10W
R829	1-216-833-11	METAL CHIP	10K	5%	1/10W
R830	1-216-833-11	METAL CHIP	10K	5%	1/10W
R838	1-216-814-11	METAL CHIP	270	5%	1/10W
R839	1-216-857-11	METAL CHIP	1M	5%	1/10W
R841	1-216-815-11	METAL CHIP	330	5%	1/10W
R843	1-216-815-11	METAL CHIP	330	5%	1/10W
R845	1-216-815-11	METAL CHIP	330	5%	1/10W
R847	1-216-815-11	METAL CHIP	330	5%	1/10W
R850	1-216-833-11	METAL CHIP	10K	5%	1/10W
R851	1-216-847-11	METAL CHIP	150K	5%	1/10W
R852	1-216-847-11	METAL CHIP	150K	5%	1/10W
R853	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R854	1-216-833-11	METAL CHIP	10K	5%	1/10W
R855	1-216-833-11	METAL CHIP	10K	5%	1/10W
R856	1-216-835-11	METAL CHIP	15K	5%	1/10W
R857	1-216-835-11	METAL CHIP	15K	5%	1/10W
R858	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R859	1-216-833-11	METAL CHIP	10K	5%	1/10W
R860	1-216-833-11	METAL CHIP	10K	5%	1/10W
R861	1-216-841-11	METAL CHIP	47K	5%	1/10W
R862	1-216-845-11	METAL CHIP	100K	5%	1/10W
R863	1-216-845-11	METAL CHIP	100K	5%	1/10W
R901	1-216-833-11	METAL CHIP	10K	5%	1/10W
R902	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R903	1-216-836-11	METAL CHIP	18K	5%	1/10W
R904	1-216-836-11	METAL CHIP	18K	5%	1/10W
R905	1-216-849-11	METAL CHIP	220K	5%	1/10W
R906	1-216-210-00	RES-CHIP	3.3K	5%	1/8W
R907	1-216-190-00	RES-CHIP	470	5%	1/8W
R908	1-216-190-00	RES-CHIP	470	5%	1/8W
R909	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R910	1-216-833-11	METAL CHIP	10K	5%	1/10W
R911	1-216-833-11	METAL CHIP	10K	5%	1/10W
R912	1-216-186-00	RES-CHIP	330	5%	1/8W
R913	1-216-817-11	METAL CHIP	470	5%	1/10W
R914	1-216-817-11	METAL CHIP	470	5%	1/10W
R915	1-216-833-11	METAL CHIP	10K	5%	1/10W
R916	1-216-001-00	METAL CHIP	10	5%	1/10W
R917	1-216-817-11	METAL CHIP	470	5%	1/10W
R918	1-216-817-11	METAL CHIP	470	5%	1/10W
R920	1-216-001-00	METAL CHIP	10	5%	1/10W
R921	1-216-001-00	METAL CHIP	10	5%	1/10W
R922	1-216-001-00	METAL CHIP	10	5%	1/10W
R923	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R924	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R925	1-216-186-00	RES-CHIP	330	5%	1/8W
R926	1-216-186-00	RES-CHIP	330	5%	1/8W
R927	1-216-186-00	RES-CHIP	330	5%	1/8W
R928	1-216-186-00	RES-CHIP	330	5%	1/8W

Ref. No.	Part No.	Description			Remark
R929	1-216-017-11	RES-CHIP	47	5%	1/10W
R930	1-216-017-11	RES-CHIP	47	5%	1/10W
R931	1-216-821-11	METAL CHIP	1K	5%	1/10W
R932	1-216-821-11	METAL CHIP	1K	5%	1/10W
R933	1-216-821-11	METAL CHIP	1K	5%	1/10W
R934	1-216-821-11	METAL CHIP	1K	5%	1/10W
		< VARIABLE RESISTOR >			
RV104	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV204	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV304	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV404	1-225-213-21	RES, ADJ, CARBON 2.2K			
RV802	1-225-648-12	RES, VAR, CARBON 5KX2 (LOW BOOST (40Hz) (FRONT))			
RV803	1-225-648-12	RES, VAR, CARBON 5KX2 (LEVEL (FRONT))			
RV805	1-225-648-12	RES, VAR, CARBON 5KX2 (LOW BOOST (40Hz) (REAR))			
RV806	1-225-648-12	RES, VAR, CARBON 5KX2 (LEVEL (REAR))			
		< TRANSFORMER >			
T801	1-435-858-11	TRANSFORMER, DC-DC CONVERTER			
		< THERMISTOR (NEGATIVE) >			
THN801	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN804	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN805	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN806	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			
THN807	1-804-301-11	THERMISTOR, CHIP (NEGATIVE)			

REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	2001. 12	New
1.1	2002. 05	Change of repair parts. (ENG-02003)
1.2	2002. 07	Change of main board (on and after the serial number 3515501): Added Supplement-1. (ENG-02009)